A STUDY TO EVALUATE THE EFFECTIVENESS OF INFORMATION EDUCATION AND COMMUNICATION (IEC) ON KNOWLEDGE AND ATTITUDE REGARDING MEMORY LOSS AMONG MIDDLE AGED ADULTS IN A SELECTED RURAL AREA AT COIMBATORE.

COIMBATORE

A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

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BY

MARUTHU. G

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DEDICATION

“Keep your dreams alive, understand to achieve anything requires faith and belief in yourself, vision, hard work, determination and dedication. Remember all things are possible for those who believe”

I dedicate this book to

God almighty who blessed me to finish this work

Successfully

I dedicate this book to my lovable Parents

Mr. GANAPATHY. M

&

Mrs. SHANMUGATHAI. K

Those who made my life more special and without them it wouldn’t have been possible to complete my study.

I dedicate this book to my beloved ever loving brother

Mr. RAVICHANDRAN. G

Who gave me a marvellous emotional support. Without his

support and love none of my project

could have been realized.

****

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ABSTRACT

Memory plays a very important role in our learning and psychological growth. Through memory of our past experiences, we handle new situations, it helps us in our relearning problem solving and thinking. Memory loss is an unusual forgetfulness in which person may not be able to remember new events, recall one or more memories of the past. Memory loss affects the individual's day to day functioning, professional and social life. Middle and older adults have a high risk for developing memory loss. So the best way of reducing the risk of developing memory loss is to provide IEC regarding memory loss among middle age people and it is found to be more valuable in creating awareness.

Statement of the Problem

A study to evaluate the effectiveness of Information Education and Communication (IEC) on knowledge and attitude regarding Memory Loss among Middle Aged Adults in a selected rural area at Coimbatore.

Objectives

- To assess the level of knowledge and attitude regarding memory loss among middle aged adults.
- To evaluate the effectiveness of Information Education Communication (IEC) on knowledge and attitude regarding memory loss among middle aged adults.
- To find out the relationship between the level of knowledge and attitude regarding memory loss among middle aged adults.
- To determine the association between the level of knowledge regarding memory loss among middle aged adults with their selected demographic variables.

- To determine the association between the level of attitude regarding memory loss among middle aged adults with their selected demographic variables.

Hypotheses

- H1 : There will be a significant difference between the mean pre-test and post-test score of knowledge regarding memory loss among middle aged adults.
- H2 : There will be a significant difference between the mean pre-test and post-test score of attitude regarding memory loss among middle aged adults.
- H3 : There will be a significant relationship between the knowledge and attitude regarding memory loss among middle aged adults.
- H4 : There will be a significant association between the post-test level of knowledge regarding memory loss among middle aged adults with their selected demographic variables.
- H5 : There will be a significant association between the post-test level of attitude regarding memory loss among middle aged adults with their selected demographic variables.

A pre-experimental one group pre-test post-test design was adopted and Non-probability convenient sampling technique was chosen for this study. The total number of samples for the present study was 60 middle aged adults. The study was conducted in a selected rural area at Coimbatore.

Data were collected by means of structured knowledge questionnaire was used to assess the knowledge and three point likert scale was used to assess the attitude regarding memory loss. The subjects received Information Education Communication (IEC) regarding memory loss.

The collected data were analyzed by using both descriptive statistics and inferential statistics. Independent 't' test was used to evaluate the effectiveness of Information Education Communication (IEC) on knowledge and attitude regarding memory loss. The obtained 't' value for knowledge 42.90 and for attitude 33.55 was significant at $p<0.05$ level.

Conclusion

The findings of the study revealed that Information Education Communication (IEC) was effective in improving knowledge and attitude regarding memory loss among middle aged adults.

Key words: Effectiveness, Information Education Communication (IEC), Memory Loss, Middle Aged Adults.

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CHAPTER - I

INTRODUCTION

"Memory Is the Mother of All Wisdom"

- Samuel John

The nervous system is the master controlling and communicating system of the body. Every thought, action and emotion reflects its activity. The nervous system is divided into central nervous system and peripheral nervous system. The central nervous system consists of brain and spinal cord. Brain is the intellectual centre that allows thought, learning, memory and creativity.

The brain constitutes about one fiftieth of the body weight and it consists of cerebrum, midbrain, pons, medulla oblongata and cerebellum. Cerebrum is the largest part of the brain, the superficial part of the cerebrum is composed of nerve cell bodies or grey matter forming the cerebral cortex. The main function of cerebral cortex is mental activities involved in memory, intelligence, sense of responsibility, thinking and learning.

Memory refers to a special ability of our mind to conserve or retain what has been previously experienced or acquired through hearing and then at some later stage enable us to make use of it by its reproduction or revival. It is a complex process, which involves learning, retention, recall and recognition. Memory plays a very important role in our learning and psychological growth. Through memory of our past experiences, we handle new situations, it helps us in our relearning problem solving and thinking.

Memory loss is an unusual forgetfulness in which person may not be able to remember new events, recall one or more memories of the past, or both. Memory loss is a common complaint in the primary care setting. It is particularly common among the elderly but also may be reported by younger people. Memory loss is caused by progressive, irreversible degeneration and atrophy of the cerebral cortex and results in mental deterioration, usually over several years and there is a gradual impairment in memory.

Aging, the normal process of time related change, begins with birth and continues throughout life, and the cognitive functions such as intelligence, memory and thinking begins to decline in the middle of 40 years and over, it is peak in the age of older above 65 years because of certain degenerative changes in the brain (F.Coria).

According to Hooyman and Kayak (2002) "significant age – related declines in intelligence, learning, and memory appear not to be inevitable".

Normal aging is associated with a decline in various memory abilities in many cognitive tasks; the phenomenon is known as Age - related Memory Impairment (AMI) or Age –Associated Memory Impairment (AAMI). Age – related memory loss occurs more frequently with short term and recent memory, but better remote memories. This may be partly due to the fact that they are not always strongly motivated to remember things, partly to lack of attentiveness, and partly to not hearing clearly and distinctly what others say.

Middle age is the period of age beyond young adulthood but before the onset of old age approximately between the ages of 40 and 60. A study in the August 21, issue of Neurology shows that middle-aged adults who are obese or possess other "metabolic abnormalities" were more likely to have declines in memory and cognitive skills over the next decade than their fitter counterparts (Ryan Jaslow, 2012).

Middle aged adults face a range of specific challenges including multiple family responsibilities and caring commitments which places them at an enhanced risk of psychological and emotional distress that increases the risk of becoming depressed and affect their cognitive functions especially thinking and working memory.

Dr. Richard Lipton, Professor and Vice chairman of Neurology at Albert Einstein College of Medicine in New York City, agreed, telling Health Day, "Maintaining normal body weight while preventing or treating abnormalities in blood pressure, glucose regulation and lipids in middle age may provide a therapeutic twofer, protecting the heart and brain and promote memory in elderly life". "The best way of reducing your risk of developing memory loss is to create awareness among middle age people to eat a balanced diet, maintain a healthy weight, exercise regularly and get your blood pressure and cholesterol checked."

During the elderly part of life, the changes are evolutional in that they lead to maturity of structure and functioning. In the later part of life, by contrast, they are mainly involving a regression to earlier stages. These changes are the natural accompaniment of what is commonly known as “aging”. They affect physical as well as mental structures and functioning’s. The period during old age when physical and mental decline is slow

and gradual and when compensations can be made for this decline is known as "senescence" – a time of growing old or aging.

The world population is rapidly aging between 2000 and 2050; the proportion of the world's population over 60 years will double from about 11% to 22%. The absolute number of people aged 60 years and over is expected to increase from 605 million to 2 billion over the same period.

According to the Indian express – 2013, March, "India has around 100 million elderly at present and the number is expected to increase to 323 million, constituting 20% of the total population, by 2050". The report jointly brought out by United Nations Population Fund (UNFPA) and Help Age International. India will be home to one out of every six of the world's older population.

According to the report by United Nations (UN) body "India's population aging sooner than expected and by the middle of the next decade, the country's demography will see a significant shift". The number of people aged 80 and above, which presently in 9,249 will increase to 44,218 by 2050, report by United Nations (UN) body.

Need for the Study

"Health is a Concern of Everyone. Attention to Health is

Central to Objective of General Education"

Memory loss is the major mental health problem among aging individual which influence day to day life functioning. The elderly age group covers a significant

percentage among total population, so the health of elderly is important to all. Awareness and preventive education on memory loss is quite important for middle aged adults to recognize the risk of memory loss and to practice healthy life styles such as regular exercise, healthy diet, adequate sleep, reduce stress, avoid alcohol and relaxation etc from the middle age to prevent memory loss in later stages.

Memory loss has a major effect on individual's life such as inability to perform day to day activities, looses interest in work which may lead to loss of job, unable to follow social norms in person's social life and emotional irritability in doing activities etc.

Clinicians and patients are often concerned that the memory loss indicates impending dementia. Such concern is based on the common knowledge that the first sign of dementia typically is memory loss. One of the key concerns of older adults is the experience of memory loss, especially as it is one of the hallmark symptoms of Alzheimer's disease.

Dementia and Alzheimer's disease are raising disorders among elderly. The primary symptom of these disorders is memory loss. So the first line of preventing late diagnosis and management of memory loss is to act in health promotion by creating awareness to the middle aged adults and elderly.

F.coria; Jagomazde; et al, (2001), conducted a descriptive survey in rural community to study the prevalence of age associated memory impairment and dementia among 1020 samples and the study findings revealed that the prevalence of age associated memory impairment was 3.6% in individuals of 40 years and over, 7.1% in individuals of

65 years and over, whereas dementia was found in 2.6% and 5.2% respectively, Alzheimer's disease is 1.8% and 3.8% in both age group.

Larrabee GJ, Crook TH, (1994) conducted a descriptive study on estimated prevalence of age associated memory impairment derived from standardized tests of memory function among elderly population of 120 samples in Florida and standardized clinical memory test was administered to the participants and the study findings revealed that the prevalence of Age-Associated Memory Impairment (AAMI) ranging from 35% to 98% among elderly population.

Koivisto K, et.al, (1995) conducted a descriptive study on "prevalence of age associated memory impairment in a randomly selected population" among 1,049 subjects aged 60 to 78 years in Eastern Finland and the study findings revealed that 76.3% of the participants had subjective memory impairment and 78.4% of them had objective memory impairment which shows that the prevalence of Age Associated Memory Impairment (AAMI) is high in the elderly population.

Dr.Felicia A Huppert, et.al, March, 2001 conducted a descriptive study to assess the high prevalence of prospective memory impairment in the elderly and early stage dementia, findings from a population based study among 11,956 participants, and evidence base prospective memory test was administered to the participants aged 65+ in the screening stage, and the study findings revealed that only 45% of the samples succeeded on the task it concluded that there was a very high prevalence of prospective memory impairment in 398 individuals with mild dementia.

Government of India, 2001 census data report states that the middle aged adults population is 139,166,661 which significantly covers 13.5% of total population in India and elderly population were 41,066,824 which cover 4% of total population in India.

Globally in the year 2000, memory impairment mortality rate was 6.7 and 7.7 for 100,000 male and female respectively and 24.3 million have dementia and also 4.6 million new cases of memory impairment estimated per year. In India memory impairment rate is 12.1 per 100,000 populations. 400,000 new cases of memory loss identified per year in India.

According to Marin, Sewell, & Schelechter (2002), the proportion of people with moderate to severe memory impairment ranged from approximately 6% among peoples ages 65 - 69 years, 32% among people 85 years and old in world wide.

According to WHO report, worldwide nearly 35.6 million people live with dementia. This number expected to double by 2030 (65.7 million) and more than triple by 2050(115.4 million). Dementia affects people in all countries, with more than half (58%) living in low and middle income countries. By the year of 2050, this is likely to rise to more than 70%.

Treating and caring for people with memory loss currently costs the world more than US$ 604 billion per year. This includes the cost of providing health and social care as well the reduction or loss of income of people with memory loss and their caregivers, which has a major influence on the economic status of low income country.

According to Mayo Foundation for Medical Education and Research (mayo 2001) "Dementia reportedly affects 3% to 11% of community residing adults older than 65 years of age. Almost 60% of adults 100 years of age and older demonstrate dementia".

According to Harvard men's health watch report, 2002, "The prevalence of Alzheimer's disease dramatically with increasing age affecting 30% of those 85 and older".

Perla Werner, Halifa, Israel (2007) conducted a descriptive study to assess the knowledge and attitude about symptoms of memory loss among general population of 150 samples in Israel. The study findings revealed that participants' knowledge and attitude about memory loss was over all poor, only slight percentage reported the symptoms of memory loss, it concluded that there is a less awareness regarding memory loss among general population.

Maria Niures, et.al, (2008) conducted a descriptive study on level of knowledge and attitude regarding memory loss among general population of 994 volunteers from September 2007 to May 2008 in the city of Santos, Brazil and the study findings revealed that 52.8% responders answered that memory loss is part of normal aging. 77.5% had never sought a doctor to evaluate their memories which shows that there is a less knowledge regarding memory loss among general population.

The Information Education and Communication (IEC) is the process of learning that empowers people to make decisions, modify behaviors and change social conditions. Information Education and Communication (IEC) activities are developed based upon

needs assessment, educational principles and periodic evaluation of using a set of goals and objectives. IEC strategies and approaches enable the individuals, families, groups, organizations and community to play an active role in achieving, protecting or sustaining their own health.

Several studies conducted on memory loss revealed that the incidence of memory loss during the elderly was high which leads major effects in individual's life such as difficulty in performing day to day functions and loss of interest in work, personality changes, emotional irritability and unable to follow to social norms in daily life etc, and some studies also reported that memory loss can occur earlier even during the middle age itself. So the researcher felt that the middle aged adults were the tomorrow's elders and have the high risk of developing memory loss so they need awareness and preventive education regarding memory loss.

Information Education and Communication (IEC) help the nurses to build trust, and communicate effectively within the group and community. The nurse researcher plays an important role in creating awareness among general population regarding memory loss to promote early identification and treatment of memory loss.

Several studies suggest that there is less awareness regarding memory loss among general population. So the nurse researcher felt the need of imparting awareness through Information Education and Communication (IEC) to promote knowledge and attitude among the high risk population of middle aged adults. So the researcher planned to design IEC regarding memory loss to assess the effectiveness of IEC on knowledge and attitude regarding memory loss among middle aged adults.

Statement of the Problem

A study to evaluate the effectiveness of Information Education and Communication (IEC) on knowledge and attitude regarding Memory Loss among Middle Aged Adults in a selected rural area at Coimbatore.

Objectives

- To assess the level of knowledge and attitude regarding memory loss among middle aged adults.
- To evaluate the effectiveness of Information Education Communication (IEC) on knowledge and attitude regarding memory loss among middle aged adults.
- To find out the relationship between the level of knowledge and attitude regarding memory loss among middle aged adults.
- To determine the association between the level of knowledge regarding memory loss among middle aged adults with their selected demographic variables.
- To determine the association between the level of attitude regarding memory loss among middle aged adults with their selected demographic variables.

Hypotheses

- H1 : There will be a significant difference between the mean pre-test and post-test score of knowledge regarding memory loss among middle aged adults.
- H2 : There will be a significant difference between the mean pre-test and post-test score of attitude regarding memory loss among middle aged adults.
- H3 : There will be a significant relationship between the knowledge and attitude regarding memory loss among middle aged adults.

- H4 : There will be a significant association between the post-test level of knowledge regarding memory loss among middle aged adults with their selected demographic variables.
- H5 : There will be a significant association between the post-test level of attitude regarding memory loss among middle aged adults with their selected demographic variables.

Operational Definitions

Effectiveness:

It refers to the degree to which the objectives of Information Education and Communication (IEC) on knowledge regarding Memory Loss are achieved.

Knowledge:

It refers to information acquired by middle adults through Information Education and Communication about Memory Loss.

Attitude:

It refers to a settled opinion, belief and way of thinking about memory loss among middle aged adults.

Memory Loss:

It refers to impairment in the ability to learn new information and to retrieve previously learned information. In this study it refers to unusual forgetfulness.

Middle – Aged Adults:

It refers to the group of people in the period of age between 40 to 60 years.

Information Education and Communication (IEC):

It refers to systematically planned teaching programme designed to provide information regarding Memory Loss.

Assumptions

- Middle aged adults have inadequate knowledge regarding memory loss.
- Middle aged adults have unfavorable attitude regarding memory loss.
- Middle aged adults need adequate knowledge and favorable attitude about prevention and management of memory loss.
- Providing Information Education Communication (IEC) will have positive effect on the middle aged adults knowledge and promote favorable attitude regarding memory loss.
- Knowledge and attitude regarding memory loss among middle aged adults influenced by selected demographic variables.
- Providing Information Education Communication (IEC) to the middle aged adults regarding memory loss will be effective in preventing memory loss in the community.

Delimitations

The study is delimited to

- Middle adults who are in the age group of 40 – 60 years.

- Middle aged adults in selected rural area at Coimbatore.
- Data collection period was delimited to 6 weeks.

Projected Outcomes

- The study will enable to evaluate the knowledge and attitude regarding memory loss among middle aged adults.
- The Information Education Communication (IEC) will be helpful to middle aged adults in developing adequate knowledge and create favorable attitude regarding memory loss.
- The middle aged adults will encourage the clients with memory loss to consult a psychiatrist for early diagnosis and treatment.
- The study findings will help the psychiatric nurses to plan the awareness program in various setting.
- The study findings will help the psychiatric nurses to practice IEC on memory loss as an intervention to prevent the memory loss.

CHAPTER II

REVIEW OF LITERATURE

Review of literature is an important step in the development of any research project. It helps the investigator to analyze what is already known about the topic and do describe methods of inquiry used in earlier work including the success and short comings. This chapter deals with the collected information relevant to the present study through the published and unpublished materials. These publications were the foundation to carry out the research work.

Research literature were reviewed and organized under the following headings.

- Studies related to Memory Loss.
- Studies related to knowledge and attitude regarding memory loss.
- Studies related to Effectiveness of Information Education Communication (IEC).

Studies related to Memory Loss

Larrabee GJ, Crook TH, (1994) conducted a descriptive study on estimated prevalence of age associated memory impairment derived from standardized tests of memory function among elderly population of 120 samples in Florida. The samples were selected by using non-probability sampling technique. The data were collected from the samples by using standardized clinical memory test through interview method. The study findings revealed that the prevalence of Age-Associated Memory Impairment (AAMI) ranges from 35% to 98% and concluded that there is a clear increase in the percentage of persons meeting the AAMI memory performance criterion as a function of age.

Koivisto K, et.al, (1995) conducted a descriptive study on prevalence of age associated memory impairment in a randomly selected population among 1,049 subjects aged 60 to 78 years in Eastern Finland. The samples were selected by using random sampling method. The data were collected from the samples by using a battery of memory test through interview method. The study findings revealed that 76.3% had subjective memory impairment and 78.4% had objective memory impairment, and concluded that the prevalence of age associated memory impairment (AAMI) is high in the elderly population.

Barker A, et.al, (1995) conducted a descriptive study on a prevalence study of age associated memory impairment among 100 samples of 50-95 years in St Martin's Hospital, Bath. The samples were selected by using stratified random sampling method. The data were collected from the samples by using questionnaire, cognitive testing and medical, psychiatric assessment through interview method. The study findings revealed that the prevalence rates for the total population and for the over 50s were estimated to be 5.8% and 18.5% respectively and concluded that AAMI is more common among elderly population.

Hanninen T, et.al, (1995) conducted a prospective cohort study on a follow up study of Age-Associated Memory Impairment: neuropsychological predictors of dementia among elderly population mean age of 71.7 years of 229 subjects in University of Kuopio, Finland. The samples were selected by using convenient sampling method. The data were collected from the samples by using a battery of neuropsychological tests through interview method. The study findings revealed that 104(59.1%) of the

participants met the AAMI criteria and concluded that there is a significant level of prevalence of AAMI among elderly population.

F. Coria, et.al, (2001) conducted a descriptive study on assess the prevalence of age associated memory impairment among 1020 samples of rural population of in Brazil. The samples were selected by using convenient sampling technique. The data were collected from samples by using Wechsler's memory scale to assess the level of memory impairment through interview method. The study findings revealed that the prevalence of age associated memory impairment was 3.6% in individuals of 40 years and over, 7.1% in individuals of 65 years and over and concluded that there is a significant level of memory impairment found among middle and older adults. Recommendations are offered focusing on ways to prevent memory impairment.

Dr. Felicia A Huppert, et.al, (March 2001), conducted a descriptive study on high prevalence of prospective memory impairment in the elderly among 65 years and older population of 11,956 participants in Cambridge, UK. The samples were selected based on convenient sampling method. The data were collected from the participants by using prospective memory test administered through interview method. The study findings revealed that there was a very high prevalence of prospective memory impairment in 398 individuals and concluded that there was a significant level of prospective memory impairment found among 65 years and older population.

Amanda Gardner, (2005) conducted a descriptive study on age related memory loss more common in men among the age group of 45-65 years population of 1,450 samples in Mayo clinic. The samples were selected by using simple random method. The data were collected by using Wechsler's memory scale through interview method. The

study findings revealed that the prevalence rate of memory loss was 7.2% among men and 5.7% among women and concluded that men appear to have higher rates of memory loss comparing to women.

Jerome A Yesavage, Jerrence L Rose, (2008) conducted a pre experimental study on concentration and mnemonic training in elderly subjects with memory complaints among elderly population of 50 samples in USA. The samples were selected by using purposive sampling method. The data were collected by using modified Wechsler's memory scale to assess the level of memory through self administered method. The study findings revealed that the concentration and mnemonic training has significantly reduced the memory complaints associated with normal aging and concluded that concentration and mnemonic training was effective in reducing memory impairment.

Tiffany Kaiser, et.al, (2013) conducted a co-relational study on assess the level of memory loss due to lack of deep sleep among younger and older population of 80 samples. The samples were selected by using convenient sampling method. The data were collected by using quality of sleep scale and structured memory assessment scale through interview method. The study findings revealed that the younger participants had a longer deep sleep, which helped with their memory sets; Poor sleep in old age prevents the brain from storing memories, which concluded that there is significant relationship between quality of sleep in increasing the memory.

Nobel Laureate, et.al, (August 2013) conducted a descriptive study on "A major cause of age related memory loss" among elderly population postmortem human brain cells of 741 samples in Columbia University medical center. The samples were selected by using convenient sampling technique. The data were collected by using analysis of

brain cells through laboratory investigation method. The study findings revealed that the hippocampus in the brain region that plays an important part in memory, lacks a protein called RBAP 48 in those who experience age related memory loss. The findings suggest that a deficiency of this protein is a cause of memory loss, but more importantly the researchers say this form of memory loss is reversible.

Studies related to Knowledge and Attitude regarding Memory Loss

Diane Feeney Mahoney et.al, (2002) conducted an experimental study on "effects of a multimedia project on users' knowledge about normal forgetting and serious memory loss" among adults of 113 samples in which 56 were experimental group and 57 were in control group in New Jersey. The samples were selected by using probability sampling method. The data were collected from the samples by using structured knowledge questionnaire through self administered method. The study findings revealed that the mean number of correct responses to the knowledge test was 14.2 (4.5) for control group and 19.7 (3.1) for experimental group, which was highly significant at $p<0.001$ level and concluded that the multimedia CD-ROM technology program provides an efficient and effective means of teaching adults about memory loss and ways to distinguish benign from serious memory loss. It uniquely balances public community outreach education and personal privacy.

Perla Werner, Halifa, (2007) conducted a descriptive study to assess the knowledge and attitude about symptoms of memory loss among general population of 150 samples in Israel. The samples were selected by using convenient sampling method. The data were collected from the samples by using structured knowledge and attitude questionnaire through self administered method. The study findings revealed that

participants' knowledge and attitude about memory loss was over all poor and only slight percentage reported the symptoms of memory loss, which concluded that there is a need for awareness regarding memory loss.

Maria Niures, et.al, (2008) conducted a descriptive study on level of knowledge and attitude regarding memory loss among general population of 994 volunteers from September 2007 to May 2008 in the city of Santos, Brazil. The samples were selected by using convenient sampling method. The data were collected from samples by using a brief questionnaire consisting of 20 simple questions about knowledge and attitude and worries about memory loss through interview method. The study findings revealed that 52.8% responders answered that memory loss is part of normal aging. 77.5% had never sought a doctor to evaluate their memories. The study results reinforced that the first line of preventing late diagnosis of memory loss is to act in health promotion by creating awareness.

Cross Ref, (2009) conducted a descriptive study on to assess knowledge of memory impairment among four ethnic groups of Asia, Anglo, Latino, African Americans among general population of 193 samples, in that 96 Anglo, 30 Asian, 37 Latino, 30 African Americans. The samples were selected by using convenient sampling method. The data were collected from samples by using structured knowledge questionnaire to assess the level of knowledge through self-administered method. The study findings revealed that Anglo people had significantly more knowledge about memory impairment than other 3 ethnic groups and concluded that the awareness about memory impairment was significantly less in Asian, Latino and African Americans.

Studies related to effectiveness of Information Education Communication (IEC)

Dr. Jesus Manzanares, MD (2010) conducted a pre-experimental study on Information Education Communication package on memory impairment among 45-65 years general population of 100 samples in Barcelona. The samples were selected by using convenient sampling method. The data were collected from the samples by using structured questionnaire to assess the level of knowledge and attitude regarding memory impairment through self administered method. The study findings revealed that there is a significant increase in knowledge and attitude regarding memory impairment among general population and concluded that IEC was effective in creating awareness among public to prevent memory loss.

Larissa Martha Sams, (2010) conducted an experimental study on effectiveness of IEC package on quality of life among patients with COPD of 20 samples in experimental group and 20 in control group in Karnataka. The samples were selected by using probability sampling method. The data were collected from the samples by using Flanagan quality of life scale to assess the level of knowledge regarding quality of life through self administered method. The study findings revealed that in experimental group the pre-test mean knowledge score obtained by the subjects was 55.45 and in post-test the overall knowledge score was 70.10, in control group the pre-test mean knowledge score obtained by the subjects was 49.10 and in post-test the overall knowledge score was 53.35 and concluded that quality of life which is less in COPD patients can be improved by introducing them to IEC package.

Sharadha Ramesh, Sahabanathul et.al, (2011) conducted a pre-experimental study to assess the effectiveness of IEC strategy in knowledge on protein energy malnutrition among mothers of under five children of 40 samples in Chennai. The samples were selected by using non-probability purposive sampling method. The data were collected from the samples by using structured interview questionnaire to assess the level of knowledge through interview method. The study findings revealed that the mean pre-test knowledge score was 6.4 with standard deviation of 2.79 and mean post-test knowledge score was 19.2 with standard deviation of 1.95, and the IEC was found to be effective with paired 't' value at $p<0.001$ level and concluded that the IEC was effective in improving knowledge regarding malnutrition among mothers of children.

Kunda Gharpure, et.al, (2011) conducted an experimental study on effect of information, education and communication intervention on awareness about rational pharmacy practice among pharmacy students of 100 samples in Nagpur. The samples were selected by using probability sampling method. The data were collected from the samples by using objective questions through self administered method. The study findings revealed that the intervention did bring about a positive change in the attitude and knowledge of the final year Pharmacy students about rational pharmacy practice; and concluded that a properly timed and meticulously implemented intervention brings about a positive change in the attitude and knowledge of pharmacy students.

BM Naveena, (2012), conducted a pre-experimental study on a study to evaluate the effectiveness of structured teaching program on knowledge and attitude regarding memory impairment among middle adults age group of 40-60 years of 60 samples in Bangalore. The samples were selected by using non probability convenient sampling

technique. The data were collected from samples by using structured knowledge and attitude questionnaire through self administered method. The study findings revealed that overall mean knowledge and attitude score obtained by the subjects was 18.80 (47%) with standard deviation 7.481 in the pre-test and the overall knowledge and attitude obtained score was 30.85 (77.12%) with standard deviation 7.427 in the post-test. The obtained 't' value 11.156 was greater than the table value at the degree of freedom 39 and was found to be significant at the level of 0.01, and concluded that the structured teaching program was effective in improving knowledge and attitude regarding memory impairment among the subjects.

Sunita Kumari, (2012) conducted a Quasi-experimental study on effect of IEC on knowledge regarding home care of children with convulsion among care givers of children with convulsion disorder of 60 samples in Pune city. The samples were selected by using non-probability purposive sampling method. The data were collected from the samples by using structured questionnaire comprised of 20 knowledge items to assess the level of knowledge regarding home care of children with convulsion through self administered method. The study findings revealed that the majority of 33 (55%) of people in pre-test of study group were having poor knowledge score 41.7% have average knowledge score. In post-test majority of people 93.3% of the people have good knowledge score and concluded that the IEC programme was effective in increasing knowledge regarding home care of children with convulsion.

Ajitabh Alwin Thomas, (2012) conducted an exploratory study on effect of IEC on knowledge and attitude regarding suicide in adolescents among high school teachers of 60 samples in Ambala district. The samples were selected by using non-probability

purposive sampling method. The data were collected from the samples by using structured knowledge questionnaire and likert scale for attitude through self administered method. The study findings revealed that the post-test mean knowledge score was 20.92, standard deviation was 3.37 and attitude mean score was 107.77, standard deviation was 10.10, obtained 't' value is significant at $p<0.001$ level and the calculated 'r' value was 0.50 which is positively correlated, and concluded that IEC was effective in improving knowledge and attitude regarding suicide in adolescents among high school teachers.

Mahesh Gupta, Urmila Bhardwaj, B Shaju, (2013) conducted a pre-experimental study on effectiveness of Information Education Communication programme on the nursing students with regard to management of children with ARI and diarrhea based on IMNCI guidelines among third year Bsc nursing students of 31 samples in Delhi. The samples were selected by using total enumeration sampling method. The data were collected from the samples by using structured knowledge questionnaire through self administered method. The study findings revealed that the pre-test knowledge score was 22.3 and practice score was 22.26, in the post-test the knowledge score was 33.29 and practice score was 33.58 and concluded that IEC based on IMNCI guidelines was useful in enhancing the knowledge and practice of student nurses. The study recommended that research needs to be done on other aspects of IMNCI.

Sarla Takoo, Manju Chhugani, Veena Sharma, (2013) conducted a pre-experimental study on effect of Information Education Communication programme on knowledge of pregnant mothers regarding prevention and management of warning signs during pregnancy among antenatal mothers of 30 samples in Andhra Pradesh. The samples were selected by using purposive sampling method. The data were collected

from the samples by using structured knowledge questionnaire. The study findings revealed that the pre-test mean knowledge score obtained by the subjects was 22.5 with standard deviation 2.25, and in the post-test the overall knowledge score was 34.83 with standard deviation 1.92, the obtained ‘t’ value 6.18 was found to be significant at the level of 0.05. it concluded that there is a significant improvement in knowledge after Information Education and Communication programme.

CONCEPTUAL FRAMEWORK

WIEDENBACH'S HELPING ART OF

CLINICAL NURSING PRACTICE THEORY (1964)

"Tabot (1995) stated that a conceptual framework is a network of interrelated changes that provide a structure for organizing and describing the phenomenon of interest. Research studies are based on the theoretical or conceptual framework that facilitates visualizing the problem and places the variables in a logical context.

The present study aims at evaluating the effectiveness of Information Education Communication (IEC) on level of knowledge and attitude regarding memory loss among middle aged adults. Conceptual framework for this study was developed based on Ernestine Wiedenbach's helping art of clinical nursing practice theory.

Ernestine Wiedenbach's began her nursing career in 1970. According to her nursing practice is an act in which the nursing action is based on the principles of helping.

General information

Wiedenbach's first published her ideas in 1964 in *clinical nursing and helping art*. She further refined her theory in "Nurses' Wisdom In Nursing Theory", published in 1970 by the *American journal of nursing.*

Wiedenbach proposed a prescriptive theory for nursing practice, which is described as a conceiving of a desired situation and the ways to attain it. This theory directs action toward an explicit goal.

This theory consists of three factors: central purpose, prescription and realities. A nurse develops a prescription based on a central purpose and implements it according to the realities of the situation.

Central purpose

Central purpose in the theory refers to what the nurse wants to accomplish. It is the overall goal towards which a nurse strives; it transcends the immediate intent of the assignment or task by specifically directing activities towards patient's benefits.

In this present study, the central purpose was to improve the level of knowledge and bring favorable attitudes regarding memory loss among middle aged adults which helps to prevent memory loss.

Prescription

Prescription refers to the plan of care for a patient. It specifies the nature of the action that will fulfill the nurse's central purpose and the rationale for that action.

In this present study the prescription was, 40 minutes of Information Education Communication (IEC) regarding memory loss administered as an intervention to improve the level of knowledge and bring favorable attitude regarding memory loss among middle aged adults.

Realities

Realities refer to the physical, psychological, emotional and spiritual factors that come into play in a situation involving nursing actions. The five realities identified by Wiedenbach are agent, recipient, goal, means and framework.

In this present study the five realities were,

- The agent : the nurse or researcher
- The recipient : middle aged adults
- The goal : to improve knowledge and attitude
- The mean : Information Education Communication (IEC) package on memory loss
- The framework : rural area at Coimbatore.

Concepts

According to Wiedenbach, nursing practice consists of identifying a patient's need for help, ministering the needed help, validating the need for help was met and co-ordination of help.

Identification

It involves viewing the person as an individual with unique experience and understanding the person's perception of the condition. Determining a person's need for help based on the existence of a need whether the patient realizes the need which prevents the person from meeting the need whether the person could meet the need alone.

In this present study, it involves identification of the need for improvement in level of knowledge and create favorable attitude regarding memory loss among middle aged adults. It was identified through data on demographic variables, structured self administered knowledge questionnaire and three point likert attitude scale.

Ministration

It refers to the provision of needed help. It requires an identified need and a person who wants help.

In this present study, the identified need was to promote knowledge and attitude regarding memory loss, and 40 minutes of Information Education Communication (IEC) package on memory loss was applied as an intervention to improve the level of knowledge and create favorable attitude regarding memory loss among middle aged adults.

Validation

Refers to a collection of evidence that shows whether a person's need have been met and his / her functional ability has been restored due to direct results of the nurse's actions. It is based on person oriented evidence.

In this present study it evaluates the effectiveness of Information Education Communication (IEC) on memory loss with the help of structured self administered knowledge questionnaire and three point attitude scale. A positive outcome represents the satisfaction of the middle aged adults with increased knowledge and favorable attitude by Information Education Communication (IEC) on memory loss and the intervention is

reinforced. The negative outcome represents the dissatisfaction of the middle aged adults with inadequate knowledge and unfavorable attitude.

Co-ordination

It refers to reporting, consulting and conferring. In this present study it refers to reporting, consulting and conferring with the Medical Officer of Arisipalayam Primary Health Centre, subjects and family members regarding the need and the effectiveness of Information Education Communication (IEC) regarding memory loss.

According to Wiedenbbach's nursing practice consists of identifying a patients need for help, ministering the needed help, validating the help which is provided was indeed.

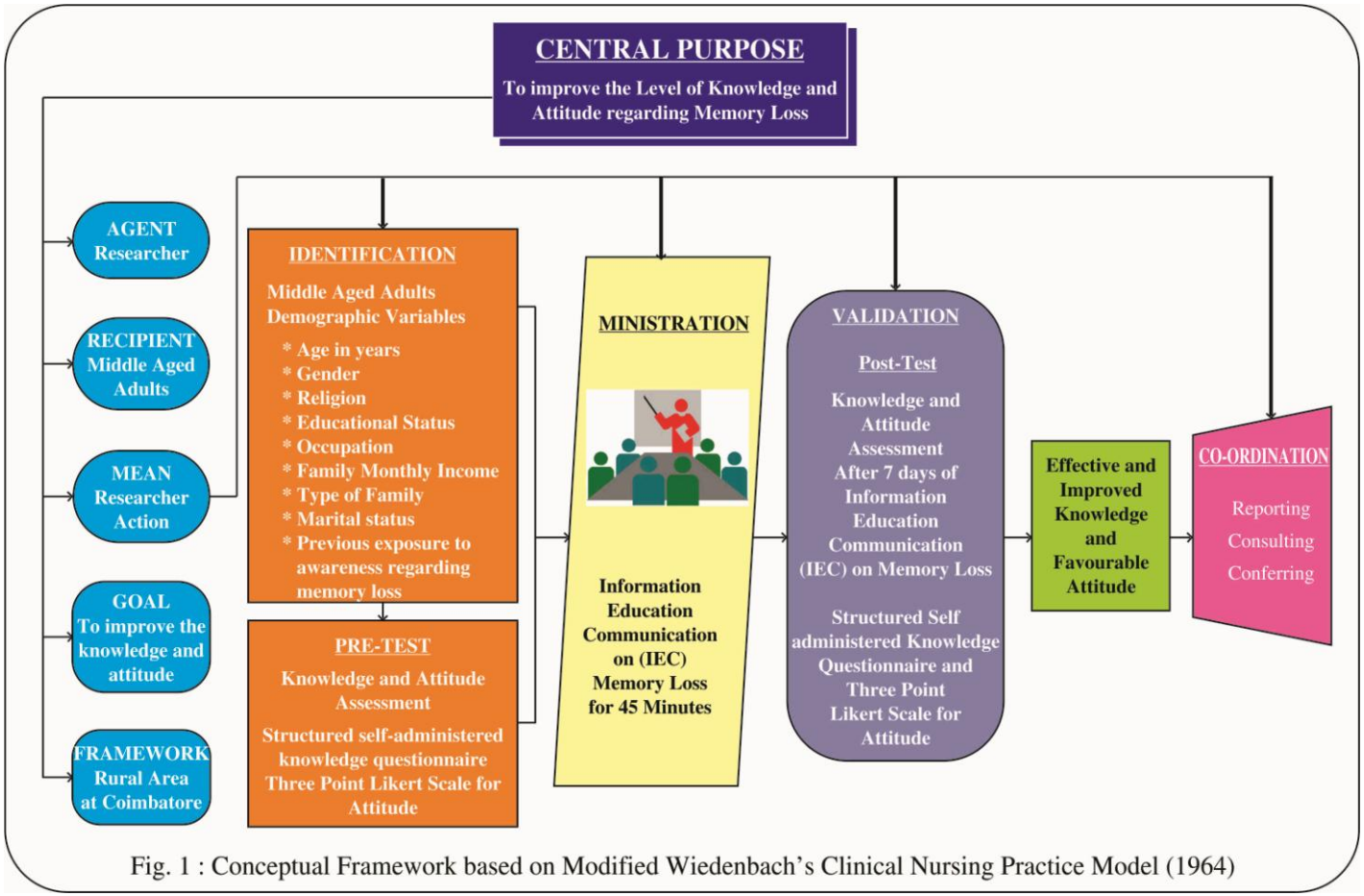

Fig. 1 : Conceptual Framework based on Modified Wiedenbach's Clinical Nursing Practice Model (1964)

CHAPTER - III

METHODOLOGY

Research methodology is a blueprint for conducting the study that maximizes control over the factors that could interfere with the validity of the findings. The research methodology guides the researcher in planning and implementing the study in a way that is most likely to achieve the intended goal.

This chapter deals with the methodological approach adopted for the study. It includes description of research approach, research design, setting of the study, population, sample, criteria for sample selection, sampling technique, and development of tool, description of tool, scoring procedure, data collection and plan for data analysis.

Research Approach

Polit and Hungler, (2004) defined the research approach as "A general set of orderly discipline procedure used to acquire information".

In this present study, a quantitative approach was used for analyzing the effectiveness of Information Education Communication on level of knowledge and attitude regarding memory loss among middle aged adults.

Research Design

Nancy burns, Susan K Groove (2005), defined research design as a blue print for conducting the study that maximizes control over the factors that could interfere with the

validity of the findings. The research design guides the researcher in planning and implementing the study in a way that is most likely to achieve the intended goal.

A pre-experimental one group pre-test post-test design was adopted for this study.

The diagrammatic representation of research design is given below

Group	Day 1	Day 8
Experimental	O_1 X	O_2

O_2-O_1 = effectiveness of IEC

Keys:

O_1 = Pre-test assessment of level of knowledge and attitude regarding memory loss.

X = Intervention (Information Education & Communication regarding memory loss).

O_2 = Post-test assessment of level of knowledge and attitude regarding memory loss

Variables

Dependent variable : Level of knowledge and attitude regarding memory loss.

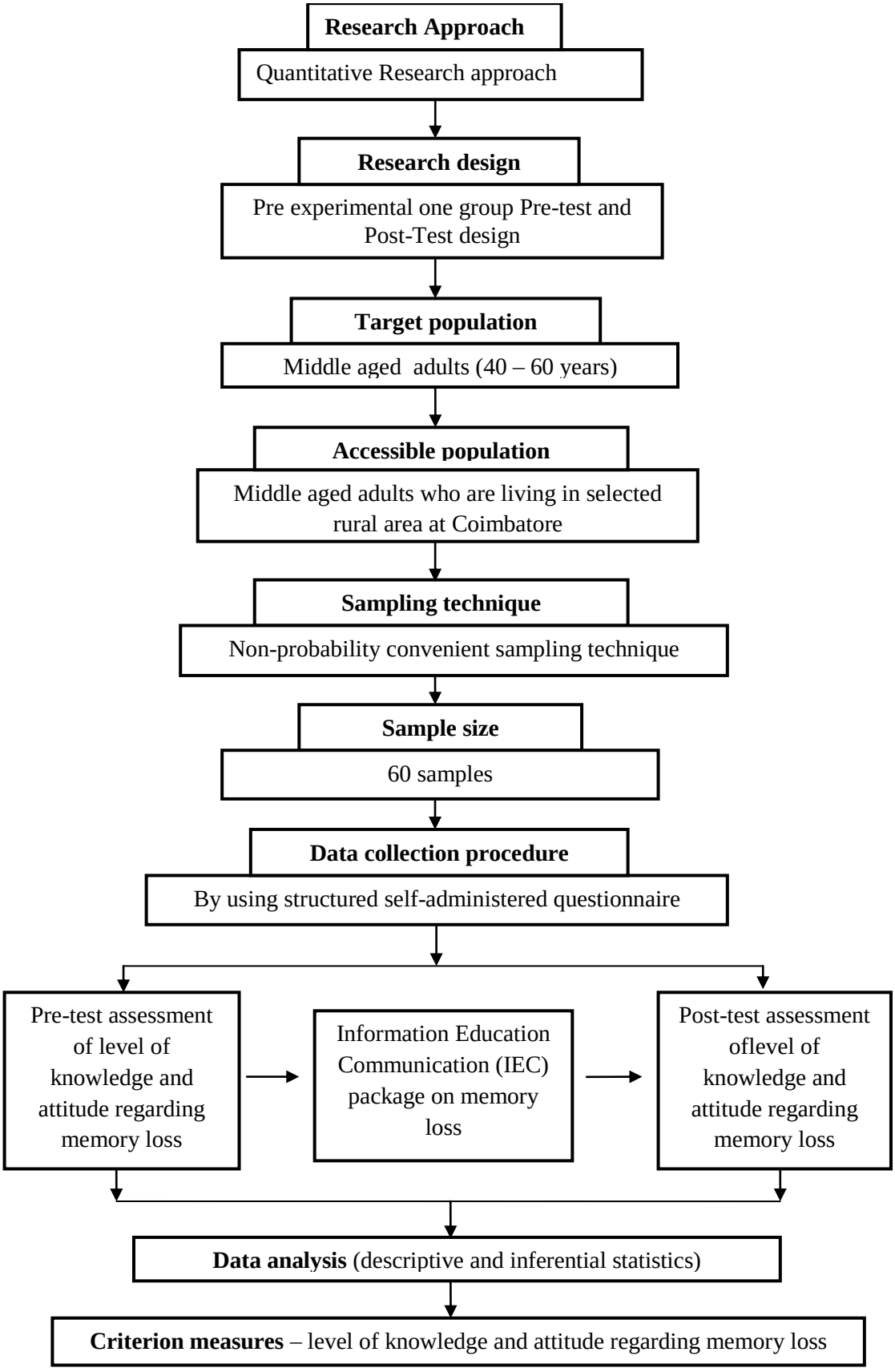

Figure 2 : The Schematic Representation of Research Methodology

Independent variable	:	Information Education & Communication (IEC) regarding memory loss.
Extraneous variables	:	Age, Sex, Religion, Occupation, Education, Family monthly income, Type of family, Marital status, Previous exposure to awareness regarding memory loss, If yes means source of information.

Setting of the Study

The study was conducted in Arisipalayam rural area under Arisipalayam PHC at Coimbatore, which is located at a distance of 10 kms from Annai Meenakshi College of nursing. In this village total population was 1890 and there were 942 middle aged adults population. The main occupation of the village is agriculture and farming. The setting was chosen on the basis of feasibility in terms of availability of adequate samples and co-operation extended by the rural area people.

Population

According to Polit and Hungler (2005), "A population is the entire aggregation of cases in which a researcher is interested".

Target population selected for this study was all the middle aged adults between the age group of 40-60 years. Accessible population selected for this study includes middle aged adults in Arisipalayam rural area at Coimbatore.

Sample

Polit and Hungler, (2005) stated that sample consists of a subset of population selected to participate in a research study. A total number of 60 middle aged adults between the age group of 40-60 years were selected based on inclusion and exclusion criteria for the study in Arisipalayam rural area.

Criteria for Sample Selection

Inclusion Criteria:

- Middle aged adults who can able to read and write Tamil.
- Middle aged adults who are willing to participate in this study.
- Middle aged adults who are present during the data collection period.

Exclusion Criteria:

- Middle aged adults who are suffering from serious physical illness and mental illness
- Middle aged adults who are deaf and blind.
- Middle aged adults who are working in medical or paramedical areas.

Sampling Technique

Polit and Hungler, (1991) stated that, “sampling refers to the process of selecting a portion of the population to represent the entire population”.

The samples were selected for this study by adopting non-probability convenient sampling techniques which means, selection of the most readily available persons as

participants in a study. Survey was done for 3 days to identify the number of middle aged adults in Arisipalayam rural area. Based on inclusion and exclusion criteria, 60 samples were selected from the middle aged adults.

Development of the Tool

Treece and Treece (1960) emphasized that the instrument selected in research should be as for as possible be the vehicle that would best obtain data for drawing conclusion.

The investigator developed the tool after an extensive review of literature and experts opinion. The structured self-administered knowledge questionnaire and three point likert attitude scale were developed to assess the level of knowledge and attitude regarding memory loss among middle aged adults.

Description of the Tool

The Structured self-administered questionnaire was used to evaluate the effectiveness of Information Education Communication on level of knowledge and attitude regarding memory loss among middle aged adults. It consists of three parts.

Section A

Deals with demographic variables of middle aged adults such as age in years, gender, religion, educational status, occupation, family monthly income, type of family, marital status, previous exposure to awareness regarding memory loss, if yes specify the source of information.

Section B

Deals with structured self-administered knowledge questionnaire to assess the level of knowledge regarding memory loss among middle aged adults. It consists of 30 multiple choice questions.

Section C

Deals with three point likert scale to assess the level of attitude regarding memory loss among middle aged adults. It consists of 10 statements where it contains five positive and five negative statements.

Scoring Procedure

PART II

In structured self administered knowledge questionnaire the pattern of question is multiple choices. The questionnaire consists of 30 items. The maximum possible score is 30, each correct answers carries ‘1’ score, wrong answer carries ‘0’ score. The total 30 score were interpreted as follows,

0 – 10	-	Inadequate knowledge
11 – 20	-	Moderately adequate knowledge
21 – 30	-	Adequate knowledge

PART III

The pattern of question is three point likert scale. It consists of 10 statements in which five positive and five negative statements. The score 3 was given for each correct

answer. The score 2 was given to each uncertain answers. The score 1 was given for wrong answers. The total scores 30 were interpreted as follows,

10 - 16	-	Unfavorable attitude
17 – 23	-	Moderately favorable attitude
24 – 30	-	Favorable attitude

Information Education and Communication (IEC) package

Information Education and Communication (IEC) package was developed by investigator after an extensive review of literature and experts opinion. The Information Education and Communication (IEC) package held for 40 minutes duration comprised of overall objectives, content, teacher - learner activities, summary and conclusion. It consists of certain domains which include meaning, prevalence, causes, risk factors, signs and symptoms, diagnostic methods, management (home care), prevention, effects of memory loss in normal life. The method of teaching adopted was lecture cum discussion in Tamil Medium, Liquid Crystal Display (LCD) projector was used as Audio Visual Aid.

Validity

Polit& beck (2004) states that 'content validity is a judgment regarding the instrument represents to be assessed'. Judgment is based on prior research in the field and on the opinion of the experts. All suggestions were considered and appropriate changes were made and the corrected tool was found to be valid.

The content validity of the instrument was evaluated by five nursing experts and two medical experts. Nursing experts were from mental health nursing and medical

experts were from Psychology and Psychiatry. Based on their suggestion, reframing of the tool was done.

Reliability

The tool was administered to five samples representing the characteristics of the population. The reliability was calculated through test retest method. The calculated test retest score for knowledge is 0.71 and attitude is 0.68. Hence the instrument found to be reliable.

Pilot Study

Polit & Beck (2004) states that, a pilot study is a smaller version of proposed study conducted to refine the methodology.

The investigator conducted pilot study among ten middle aged adults in Meenakshipuram village at Coimbatore. Study period was 2 weeks. After obtaining the written consent, the pre-test level of knowledge and attitude regarding memory loss among the participants was assessed by administering structured self administered questionnaire followed by that Information Education Communication (IEC) was given regarding memory loss for 40 minutes on day 1. In 7 days interval again the same questionnaire was administered to assess the post-test level of knowledge and attitude on 8^{th} day. There was a significant difference in knowledge score ('t'=10.86), and attitude score ('t'=9.05) at $p<0.05$level. The pilot study was found to be feasible with regard to time, the availability of subjects and co-operation of the samples and statistical tests were appropriate to conduct main study.

Data Collection Procedure

Data collection period was 18 days in Arisipalayam rural area at Coimbatore. A formal prior permission to conduct the study was obtained from the Medical Officer in Arisialayam Primary Health Centre. The samples were informed by the investigator about the nature and purpose of the study. The written consent and pre-test level of knowledge and attitude regarding memory loss was assessed from middle aged adults by administering structured self administered questionnaire for 20 minutes on day 1 by going home visit followed by Information Education Communication (IEC) package on memory loss was given for 40 minutes through LCD. Middle aged adults were gathered as 6 groups in primary health centre in various days. In 7 days interval the post-test level of knowledge and attitude were assessed by administering same questionnaire on 8^{th} day of each group.

Plan for Data Analysis

The demographic variables were analyzed by using descriptive measures (frequency and percentage). The effectiveness of IEC on level of knowledge and attitude among middle aged adults was analyzed by using paired 't' test. The association between level of knowledge and attitude and the selected demographic variables, level of attitude and demographic variable were assessed by Chi-square test. The relationship between the level of knowledge and attitude were assessed by using Karl Pearson's 'r' correlation formula.

Protection of Human Rights

The proposed study was conducted after the approval of dissertation committee of the college of nursing. Prior permission obtained from the authority of the medical officer of Arisipalayam rural area Primary Health Centre. Written consent of each subject was obtain before starting the data collection and assurance was given to them that the anonymity and confidentiality of each individual was maintained throughout the study.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretations of the collected data from the 60 middle aged adults in a selected rural area. The purpose of analysis was to reduce the data to an intelligible and interpretable form, so that the relation of the research problem can be studied and tested.

Polit and Peck (2004) have denoted data analysis as the systematic organization, synthesis of research data and the testing of research hypothesis by using those data.

The collected data regarding effectiveness of Information Education Communication (IEC) regarding memory loss on level of knowledge and attitude among middle aged adults were organized, analyzed and interpreted as follows:

Section I	:	Data on Demographic Variables of Middle Aged Adults.
Section II	:	Data on Level of Knowledge and Attitude regarding Memory Loss among Middle Aged Adults.
Section III	:	Data on Effectiveness of Information Education Communication (IEC) on Level of Knowledge and Attitude Regarding Memory Loss among Middle Aged Adults.
Section IV	:	Data on relationship between the Level of Knowledge and Attitude Regarding Memory Loss among Middle Aged Adults.

Section V : Data on Association between the Post-test Level of Knowledge Regarding Memory Loss among Middle Aged Adults with their Selected Demographic Variables.

Section VI : Data on Association between the Post-test Level of Attitude Regarding Memory Loss among Middle Aged Adults with their Selected Demographic Variables.

SECTION I : DATA ON DEMOGRAPHIC VARIABLES OF MIDDLE AGED ADULTS.

Table: 1

Frequency and Percentage Distribution of

Middle Aged Adults with their selected Demographic Variables

N=60

S. No.	Demographic Variables	Frequency (f)	Percentage (%)
1.	Age in years		
	a) 40- 46 years	22	36.7
	b) 47-53 years	22	36.7
	c) 54-60 years	16	26.6
2.	Gender		
	a) Male	42	70
	b) Female	18	30
3.	Religion		
	a) Hindu	53	88.3
	b) Christian	7	11.7
	c) Muslim	0	0
	c) Others	0	0
4.	Educational Status		
	a) Primary Education	35	58.4
	b) Secondary Education	20	33.3
	c) Higher Secondary Education	2	3.3
	d) Graduate / equivalent	3	5.00
	e) No formal education	0	0
5.	Occupation		
	a) Government Employee	2	3.3
	b) Private Employee	11	18.3
	c) Self Employed	34	56.7
	d) Unemployed	13	21.7

(Contd.,)

S. No.	Demographic Variables	Frequency (f)	Percentage (%)
6.	Family Monthly Income		
	a) Below Rs.5000	11	18.3
	b) Rs.5001-Rs.10000	45	75
	c) Rs.10001-Rs.20000	3	5
	d) Rs.20001 and above	1	1.7
7.	Type of Family		
	a) Nuclear Family	37	61.7
	b) Joint Family	23	38.3
	c) Extended Family	0	0
8.	Marital Status		
	a) Married	53	88.3
	b) Unmarried	0	0
	c) Widow (or) Widower	7	11.7
	d) Divorced (or) Separated	0	0
9.	Previous exposure to awareness regarding Memory Loss		
	a) Yes	3	5
	b) No	57	95
10.	If yes specify the source of information		
	a) Mass Media	2	66.7
	b) Health Personnel	1	33.3
	c) Relatives and Friends	0	0

The table 1 shows that the distribution of demographic variables of middle aged adults.

- It shows that out of 60 subjects 22 (36.7%) were belonging to the age group between 40-46 years, 22 (36.7%) were belonging to the age group between 47-53 years and 16 (26.6%) belonging to the age group 54-60 years.

- Regarding sex, majority 42 (70%) were males and 18 (30%) were females.

- Regarding religion, majority of them 53 (88.3%) were Hindus, 7 (11.7%) were belongs to Christians, none of them were belongs to Muslim and other religion.

- Regarding educational status, majority 35 (58.4%) were belongs to primary education and 20 (33.3%) were belongs to secondary education and 2 (3.3%) were belongs to higher secondary education and 3 (5%) were belongs to graduate / equivalent, none of them were belongs to no formal education.

- Regarding occupation, 2 (3.3%) were government employees and 11 (18.3%) were private employees and majority 34 (56.7%) were self employed and 13 (21.7%) were unemployed.

- Regarding family monthly income, 11 (18.3%) were below Rs.5000 and majority 45 (75%) were Rs. 5001-10000 and 3 (5%) were Rs. 10001-20000 and 1 (1.7%) were Rs. 20001 and above.

- Based on type of family, majority 37 (61.7%) were nuclear family and 23 (38.3%) were joint family and none of them were belongs to extended family.

- About marital status, majority 53 (88.3%) were married and 7 (11.7%) were widow or widower and none of them were belongs to unmarried and divorced or separated.

- In relation to previous exposure to awareness regarding memory loss 3 (5%) were exposed and majority 57 (95%) were not having exposure to awareness.

- According to the source of information among those who had exposure to previous awareness 2 (66.7%) were aware through mass media and 1 (33.3%) was aware through health personal and no one was aware through friends and relatives.

SECTION II : DATA ON LEVEL OF KNOWLEDGE AND ATTITUDE REGARDING MEMORY LOSS AMONG MIDDLE AGED ADULTS.

Table 2.1

Frequency and Percentage Distribution of Pre and Post-test Level of Knowledge Regarding Memory Loss among Middle Aged Adults

N=60

S. No.	Level of Knowledge	Pre-test		Post-test	
		f	%	f	%
1	Inadequate knowledge	12	20	0	0
2	Moderately adequate knowledge	45	75	7	11.7
3	Adequate knowledge	3	5	53	88.3

Table 2.1 shows that, In pre-test among 60 samples 12 (20%) of them were had inadequate knowledge and majority 45 (75%) had moderately adequate knowledge and 3 (5%) had adequate knowledge regarding memory loss. In post-test 7 (11.7%) of them were had moderately adequate knowledge and majority 53 (88.3%) had adequate knowledge during post-test none of them had inadequate knowledge.

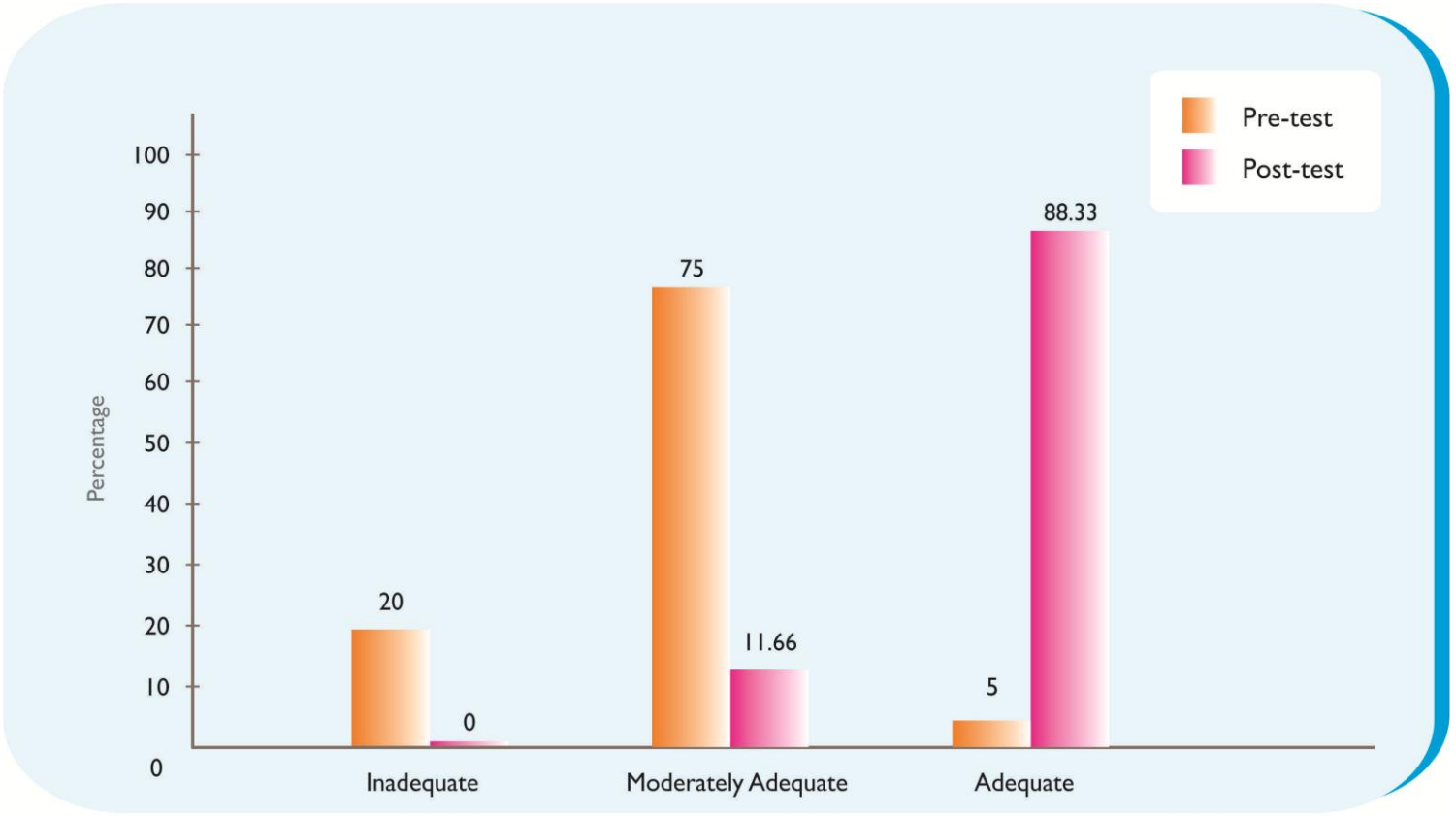

Figure 3 : Frequency and Percentage Distribution of

Pre and Post-Test Level of Knowledge regarding Memory Loss among Middle Aged Adults.

Table 2.2

Frequency and Percentage Distribution of Pre and Post-test Level of Attitude Regarding Memory Loss among Middle Aged Adults.

N=60

S. No.	Level of Attitude	Pre-test		Post-test	
		f	%	f	%
1	Unfavorable Attitude	21	35	0	0
2	Moderately Favorable Attitude	36	60	8	13.3
3	Favorable Attitude	3	5	52	86.7

Table 2.2 revealed that, In pre-test among 60 samples 21 (35%) of them were had unfavorable attitude and majority 36 (60%) had moderately favorable attitude and 3 (5%) had favorable attitude. In post-test 8 (13.3%) of them were had moderately favorable attitude and majority 52 (86.7%) had favorable attitude regarding memory loss, and none of them had unfavorable Attitude.

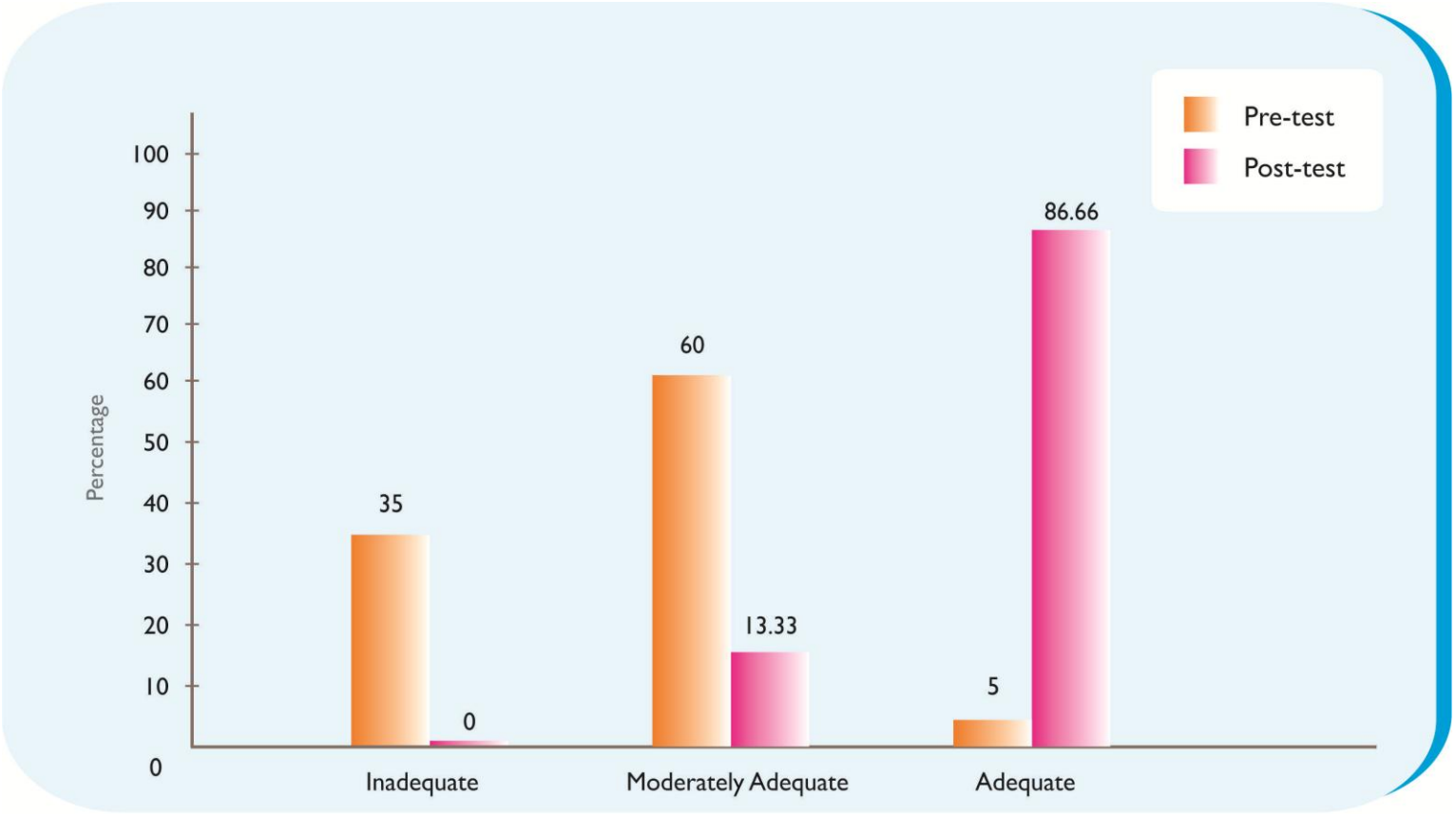

Figure 4 : Frequency and Percentage Distribution of

Pre and Post-Test Level of Attitude regarding Memory Loss among Middle Aged Adults.

SECTION III : DATA ON EFFECTIVENESS OF INFORMATION EDUCATION COMMUNICATION ON LEVEL OF KNOWLEDGE AND ATTITUDE REGARDING MEMORY LOSS AMONG MIDDLE AGED ADULTS.

Table 3.1

Mean, Standard Deviation, Mean Difference and 't' Value of Pre-test and Post-test Knowledge Score regarding Memory Loss among Middle Aged Adults.

N=60

S. No.	Level of Knowledge	Mean	SD	MD	't' Value
1	Pre-test	14.23	3.65	10.18	42.90***
2	Post-test	24.41	2.89		

*** - Significant at $p < 0.05$ level

Table 3.1 shows that, the mean pre-test level of knowledge score was 14.23, standard deviation was 3.65 and the mean post-test level of knowledge score was 24.41, standard deviation was 2.89. The mean difference was 10.18. The obtained 't' value is 42.90. It was significant at $p<0.05$ level. Hence the stated hypothesis (H_1) is accepted.

It is inferred that Information Education Communication (IEC) on memory loss is effective in improving knowledge among middle aged adults.

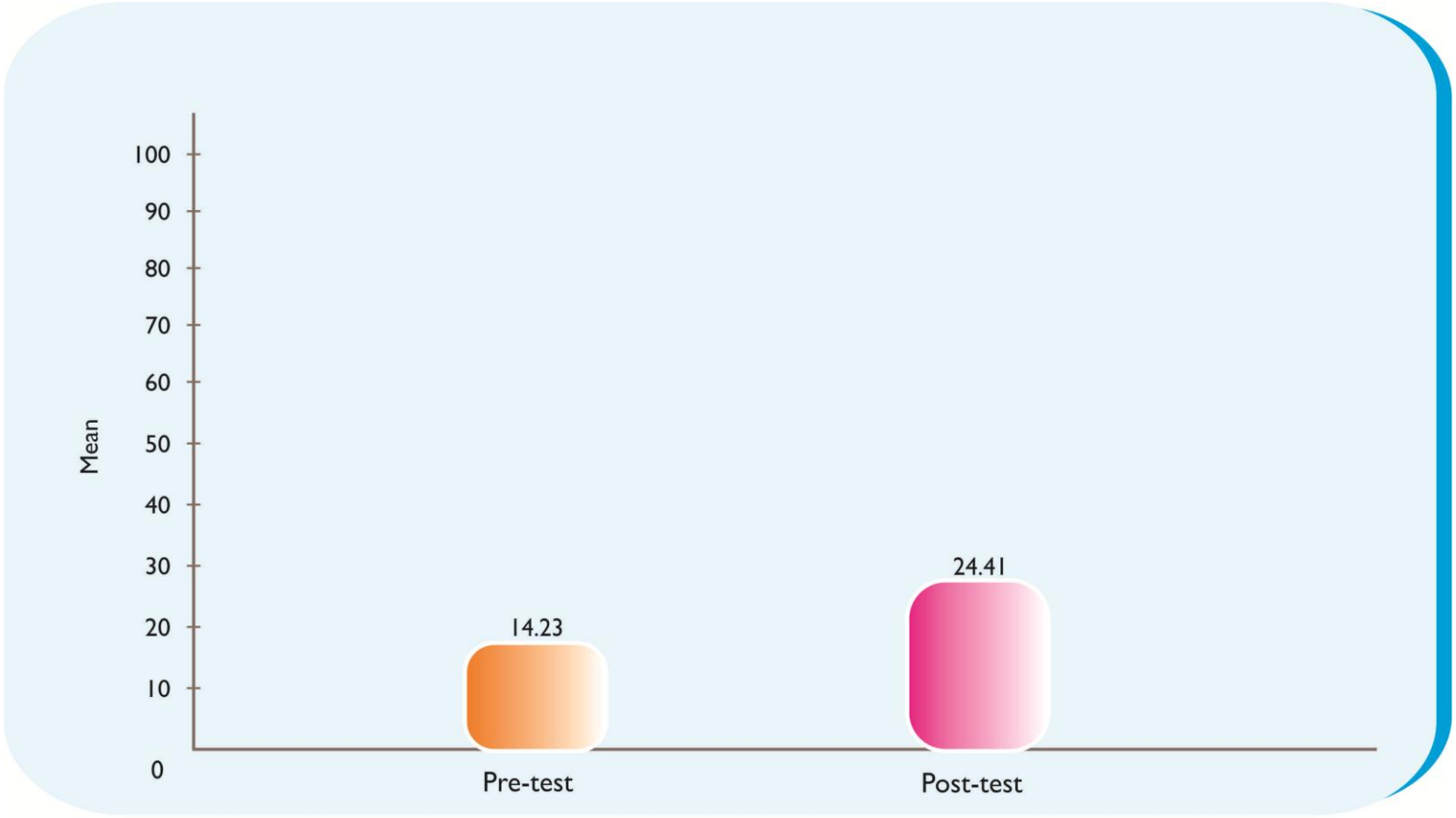

Figure 5 : Mean Value of Pre-test and Post-test Knowledge Score regarding Memory Loss among Middle Aged Adults.

Table 3.2

Mean, Standard Deviation, Mean Difference and 't' Value of Pre-test and Post-test Attitude Score regarding Memory Loss among Middle Aged Adults.

N=60

S. No.	Level of Attitude	Mean	SD	MD	't' Value
1	Pre-test	17.08	2.82	8.57	33.55***
2	Post-test	25.65	1.93		

*** - Significant at $p < 0.05$ level

Table 3.2 shows that, the mean pre-test level of attitude score was 17.08, standard deviation was 2.82 and the mean post-test level of attitude score was 25.65, standard deviation was 1.93. The mean difference was 8.57. The obtained 't' value is 33.55. It was significant at $p<0.05$ level. Hence the stated hypothesis (H_2) is accepted.

It is inferred that Information Education Communication (IEC) on memory loss is effective in bringing favorable attitude among middle aged adults.

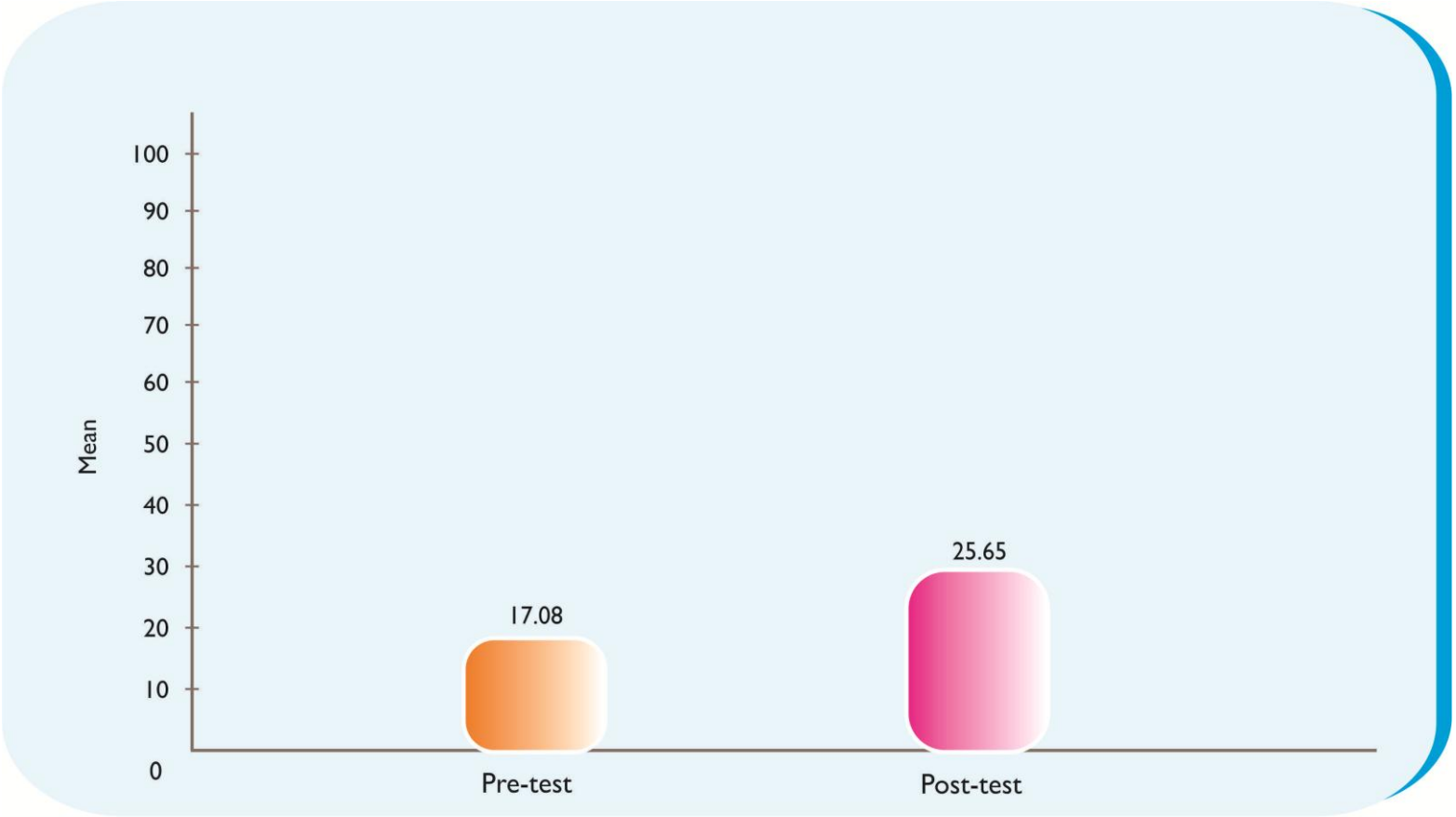

Figure 6 : Mean Value of Pre-test and Post-test Attitude Score regarding Memory Loss among Middle Aged Adults.

SECTION IV : DATA ON RELATIONSHIP BETWEEN THE LEVEL OF KNOWLEDGE AND ATTITUDE REGARDING MEMORY LOSS AMONG MIDDLE AGED ADULTS.

Table 4

Mean, Standard Deviation, and 'r' Value of Knowledge and Attitude regarding Memory Loss among Middle Aged Adults.

N=60

S. No.	Aspects	Knowledge		Attitude		'r' Value
		Mean	SD	Mean	SD	
1	Pre-test	14.23	3.65	17.08	2.82	0.86
2	Post-test	24.41	2.89	25.65	1.93	0.75

Table 4.1 shows that, In pre-test the mean score of knowledge was 14.23, standard deviation was 3.65 and pre-test attitude mean score was 17.08, standard deviation was 2.82 and the calculated 'r' value was 0.86 which is positively correlated. In post-test the mean score of knowledge was 24.41, standard deviation was 2.89 and post-test attitude mean score was 25.65, standard deviation was 1.93 and the calculated 'r' value was 0.75 which is positively correlated. Hence the stated hypothesis H_3 is accepted.

It is inferred that there is a significant relationship between the knowledge and attitude regarding memory loss among middle aged adults.

SECTION V : DATA ON ASSOCIATION BETWEEN THE LEVEL OF KNOWLEDGE REGARDING MEMORY LOSS AMONG MIDDLE AGED ADULTS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

Table: 5

Frequency, Percentage and Chi Square Distribution of Post-test Level of Knowledge Regarding Memory Loss among Middle Aged Adults with their selected Demographic Variables.

N=60

S. No.	Demographic Variable	Level of Knowledge				χ^2 Value
		Moderately Adequate		Adequate		
		f	%	f	%	
1	Age in years					
	a. 40-46	0	0	22	36.7	
	b. 47-53	5	8.3	17	28.4	5.52^{NS}
	c. 54-60	2	3.3	14	23.3	
2	Gender					
	a. Male	5	8.3	37	61.7	0.007^{NS}
	b. Female	2	3.3	16	26.7	
3	Religion					
	a. Hindu	7	11.6	46	76.7	
	b. Christian	0	0	7	11.7	1.034^{NS}
	c. Muslim	0	0	0	0	
	d. Others	0	0	0	0	
4	Educational Status					
	a. Primary education	7	11.7	28	46.7	
	b. Secondary education	0	0	20	33.3	5.662^{NS}
	c. Higher secondary education	0	0	2	3.3	
	d. Graduate / Equivalent	0	0	3	5	
	e. No formal education	0	0	0	0	

(Contd.,)

S. No.	Demographic Variable	Level of Knowledge				χ^2 Value
		Moderately Adequate		Adequate		
		f	%	f	%	
5	Occupation					
	a. government employee	0	0	2	3.3	
	b. private employee	0	0	11	18.3	3.373^{NS}
	c. self employee	4	6.7	30	50	
	d. unemployed	3	5	10	16.7	
6	Family Monthly income					
	a. <Rs.5000	2	3.3	9	15	
	b. Rs 5001- 10000	5	8.3	40	66.7	0.98^{NS}
	c. Rs 10001- Rs 20000	0	0	3	5	
	d. > Rs 20000	0	0	1	1.7	
7	Type of family					
	a. Nuclear Family	3	5	34	56.7	
	b. Joint Family	4	6.6	19	31.7	1.185^{NS}
	c. Extended Family	0	0	0	0	
8	Marital Status					
	a. Married	4	6.7	49	81.7	
	b. Unmarried	0	0	0	0	7.559^{NS}
	c. Widow / Widower	3	5	4	6.6	
	d. Divorced or Separated	0	0	0	0	
9	Previous exposure to awareness regarding memory loss					
	a. Yes	0	0	3	5	0.416^{NS}
	b. No	7	11.7	50	83.3	

NS – Non Significant at $p < 0.05$ level

Table 5 indicate that, among age of 40-46 years, 22 (36.7%) had adequate knowledge. Among the category of 47-53 years, 5 (8.3%) had moderately adequate knowledge and 17 (28.4%) had adequate knowledge. In the category of 54-60 years, 2 (3.3%) had moderately adequate knowledge and 14 (23.3%) had adequate knowledge.

The obtained chi-square value of 5.52 was not significant at $p < 0.05$ level and thus stated research hypothesis is not accepted.

With regard to gender among males, 5 (8.3%) had moderately adequate knowledge and majority 37 (61.7%) had adequate knowledge. Among females 2 (3.3%) had moderately adequate knowledge and 16 (26.7%) had adequate knowledge. The obtained t value of 0.007 was not significant at $p < 0.05$ level and thus the stated research hypothesis is not accepted.

With regard to religion, in the category of Hindu 7 (11.6%) had moderately adequate knowledge and majority 46 (76.7%) had adequate knowledge. In the category of Christians 7 (11.7%) had adequate knowledge. The obtained chi square value 1.034 was found to be not significant at $p < 0.05$ level.

With regard to educational status, 7 (11.7%) had moderately adequate knowledge and majority 28 (46.7%) had adequate knowledge in the category of primary education. In the category of secondary education 20 (33.3%) had adequate knowledge. In the category of higher secondary education 2 (3.3%) had adequate knowledge. In the category of graduate equivalent 3 (5%) had adequate knowledge regarding memory loss. The obtained chi square value is 5.662 was found to be not significant at $p < 0.05$ level.

With regard to occupation among middle aged adults, in the category of government employee 2 (3.3%) had adequate knowledge. In the category of private employee 11 (18.3%) had adequate knowledge. In the category of self employed 4 (6.7%) had moderately adequate knowledge and 30 (50%) had adequate knowledge. In the category of unemployed 3 (5%) had moderately adequate knowledge and 10 (16.7%) had

adequate knowledge regarding memory loss. The obtained chi square value 3.373 was found to be not significant at $p < 0.05$ level.

With regard to family monthly income, in the category of below Rs. 5000, 2 (3.3%) had moderately adequate knowledge and 9 (15%) had adequate knowledge. In the category of Rs. 5001-Rs.10000, 5 (8.3%) had moderately adequate knowledge, and majority 40 (66.7%) had adequate knowledge. In the category of Rs. 10001-Rs.20000, 3 (5%) had adequate knowledge. In the category of Rs. 20001 and above 1 (1.7%) had adequate knowledge. The obtained chi square value 0.98 was found to be not significant at $p < 0.05$ level.

With regard to type of family in the category of nuclear family 3 (5%) had moderately adequate knowledge and majority 34 (56.7%) had adequate knowledge. In the category of joint family 4 (6.6%) had moderately adequate knowledge and 19 (31.7%) had adequate knowledge. The obtained chi square value 1.185 was found to be not significant at $p < 0.05$ level.

With regard to marital status in the category of married 4 (6.7%) had moderately adequate knowledge and majority 49 (81.7%) had adequate knowledge. In the category of widow or widower 3 (5%) had moderately adequate knowledge and 4 (6.6%) had adequate knowledge. The obtained chi square value 7.559 was found to be not significant at $p < 0.05$ level.

With regard to previous exposure to awareness regarding memory loss, in the category of yes 3 (5%) had adequate knowledge. In the category of no 7 (11.7%) had moderately adequate knowledge and majority 50 (83.3%) had adequate knowledge. The obtained chi square value 0.416 was found to be not significant at $p < 0.05$ level.

SECTION VI : DATA ON ASSOCIATION BETWEEN THE LEVEL OF ATTITUDE REGARDING MEMORY LOSS AMONG MIDDLE AGED ADULTS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

Table: 6

Frequency, Percentage and Chi Square Distribution of Post-test Level of Attitude Regarding Memory Loss among Middle Aged Adults with their selected Demographic Variables.

N=60

S. No.	Demographic Variable	Level of Attitude				χ^2 Value
		Moderately Favourable		Favourable		
		f	%	f	%	
1	Age in years					
	a. 40-46	0	0	22	36.7	
	b. 47-53	5	8.3	17	28.3	5.47^{NS}
	c. 54-60	3	5	13	21.7	
2	Gender					
	a. Male	5	8.3	37	61.7	0.243^{NS}
	b. Female	3	5	15	25	
3	Religion					
	a. Hindu	8	13.3	45	75	
	b. Christian	0	0	7	11.7	1.218^{NS}
	c. Muslim	0	0	0	0	
	d. Others	0	0	0	0	
4	Educational Status					
	a. Primary education	8	13.3	27	45	
	b. Secondary education	0	0	20	33.4	
	c. Higher secondary education	0	0	2	3.3	6.82^{NS}
	d. Graduate / Equivalent	0	0	3	5	
	e. No formal education	0	0	0	0	

(Contd.,)

S. No.	Demographic Variable	Level of Attitude				χ^2 Value
		Moderately Favourable		Favourable		
		f	%	f	%	
5	Occupation					
	a. government employee	0	0	2	3.3	
	b. private employee	0	0	11	18.4	3.115^{NS}
	c. self employee	5	8.3	29	48.3	
	d. unemployed	3	5	10	16.7	
6	Family Monthly income					
	a. <Rs.5000	1	1.7	10	16.7	
	b. Rs 5001- 10000	7	11.7	38	63.3	2.94^{NS}
	c. Rs 10001- Rs 20000	0	0	3	5	
	d. > Rs 20000	0	0	1	1.6	
7	Type of family					
	a. Nuclear Family	3	5	34	56.7	
	b. Joint Family	5	8.3	18	30	2.287^{NS}
	c. Extended Family	0	0	0	0	
8	Marital Status					
	a. Married	5	8.3	48	80	
	b. Unmarried	0	0	0	0	6.001^{NS}
	c. Widow / Widower	3	5	4	6.7	
	d. Divorced or Separated	0	0	0	0	
9	Previous exposure to awareness regarding memory loss					
	a. Yes	0	0	3	5	0.485^{NS}
	b. No	8	13.3	49	81.7	

NS – Non Significant at $p < 0.05$ level

Table 6 indicates that, among age of 40-46 years, 22 (36.7%) had favorable attitude. In the category of 47-53 years, 5 (8.3%) had moderately favorable attitude and 17 (28.3%) had favorable attitude. In the category of 54-60 years, 3 (5%) had moderately

favorable attitude and 13 (21.7%) had favorable attitude. The obtained chi square value of 5.47 was found to be significant at $p < 0.05$ level.

With regard to gender, in the category of male, 5 (8.3%) had moderately favorable attitude and majority 37 (61.7%) had favorable attitude. In the category of female, 3 (5%) had moderately favorable attitude and 15 (25%) had favorable attitude. The obtained chi square value 0.243 was found to be not significant at $p < 0.05$ level.

With regard to religion in the category of Hindu 8 (13.3%) had moderately favorable attitude and majority 45 (75%) had favorable attitude. In the category of Christian 7 (11.7%) had favorable attitude. The obtained chi square value 1.218 was found to be not significant at $p < 0.05$ level.

With regard to educational status, in the category of primary education 8 (13.3%) had moderately favorable attitude and majority 27 (45%) had favorable attitude. In the category of secondary education 20 (33.4%) had favorable attitude. In the category of higher secondary education 2 (3.3%) had favorable attitude. In the category of graduates 3 (5%) had favorable attitude. The obtained chi square value 6.82 was found to be not significant at $p < 0.05$ level.

With regard to occupation in the category of government employee 2 (3.3%) had favorable attitude. In the category of private employee 11 (18.4%) had favorable attitude. In the category of self employed 5 (8.3%) had moderately favorable attitude and majority 29 (48.3%) had favorable attitude. In the category of unemployed 3 (5%) had moderately favorable attitude and 10 (16.7%) had favorable attitude. The obtained chi square value 3.115 was found to be not significant at $p < 0.05$ level.

With regard to family monthly income, in the category of below Rs. 5000, 1 (1.7%) had moderately favorable attitude and 10 (16.7%) had favorable attitude. In the category of Rs.5001 – Rs. 10000, 7 (11.7%) had moderately favorable attitude and majority 38 (63.3%) had favorable attitude. In the category of Rs. 10001 – Rs. 20000 3 (5%) had favorable attitude. In the category of Rs. 20001 and above 1 (1.6%) had favorable attitude. The obtained chi square value 2.94 was found to be not significant at $p < 0.05$ level.

With regard to type of family, in the category of nuclear family 3 (5%) had moderately favorable attitude and majority 34 (56.7%) had favorable attitude. In the category of joint family 5 (8.3%) had moderately favorable attitude and 18 (30%) had favorable attitude. The obtained chi square value 2.287 was found to be not significant at $p < 0.05$ level.

With regard to marital status in the category of married 5 (8.3%) had moderately favorable attitude and majority 48 (80%) had favorable attitude. In the category of widow or widower 3 (5%) had moderately favorable attitude and 4 (6.7%) had favorable attitude. The obtained chi square value 6.001 was found to be not significant at $p < 0.05$ level.

With regard to previous exposure to awareness regarding memory loss, in the category of yes 3 (5%) had favorable attitude. In the category of no, 8 (13.3%) had moderately favorable attitude and majority 49 (81.7%) had favorable attitude. The obtained chi square value 0.485 was found to be not significant at $p < 0.05$ level.

CHAPTER V

DISCUSSION

The basic aim of the current study is to evaluate the effectiveness of Information Education Communication (IEC) on knowledge and attitude regarding memory loss among middle aged adults. The present study was conducted by using pre-experimental one group pre-test and post-test design. Arisipalayam rural area at Coimbatore was selected for conducting the study, and the sample size was 60.

The structured self administered knowledge questionnaire and three point likert scale was administered to assess the level of knowledge and attitude respectively regarding memory loss among middle aged adults.

The responses of middle aged adults were analyzed through descriptive statistics (mean, frequency, percentage, standard deviation) and inferential statistics (‘t’ test, chi square test, Karl Pearson’s ‘r’ correlation). Based on the objective of the study the results were discussed,

The first objective of the study was to assess the level of knowledge and attitude regarding memory loss among middle aged adults.

Among the 60 middle aged adults 12 (20%) had inadequate knowledge and majority 45 (75%) had moderately adequate knowledge and 3 (5%) had adequate knowledge regarding memory loss in the pre-test. Among 60 middle aged adults majority

53 (88.3%) had adequate knowledge and 7 (11.7%) had moderately adequate knowledge and none of them had inadequate knowledge regarding memory loss during post-test.

In the pre-test level of attitude regarding memory loss 21 (35%) had unfavorable attitude and majority 36 (60%) had moderately favorable attitude and 3 (5%) had favorable attitude. In the post-test level of attitude majority 52 (86.7%) had favorable attitude, 8 (13.3%) had moderately favorable attitude and none of them had unfavorable attitude.

The results are similar to the findings of study done by Diane Feeney Mahoney et.al, (2002) who conducted an experimental study to assess the effects of a multimedia project on users' knowledge about normal forgetting and serious memory loss" among adults of 113 samples in New Jersey, which revealed that in post-test 84% of them had adequate knowledge and 16% had moderately adequate knowledge and none of them had inadequate knowledge and 82% had favorable attitude and 18% had moderately favorable attitude, none of them had unfavorable attitude.

The second objective of the study was to evaluate the effectiveness of IEC on knowledge and attitude regarding memory loss among middle aged adults.

The mean pre-test knowledge score 14.23 with standard deviation 3.65 was less than the mean post-test knowledge score 24.41 with standard deviation 2.89. The calculated mean difference was 10.2 and the obtained 't' value 42.90 was highly significant at $p<0.05$ level. Hence the stated hypothesis H_1 is accepted.

The mean pre-test attitude score was 17.08 with standard deviation 2.83 was less than the mean post-test attitude score 25.65 with standard deviation 1.93. The calculated mean difference was 8.57 and the obtained 't' value 33.55 was significant at $p < 0.05$ level. Hence the stated hypothesis H_2 is accepted. This finding revealed that there is a significant difference between the pre-test and post-test mean score of knowledge and attitude regarding memory loss among middle aged adults. So it was concluded that the Information Education Communication (IEC) was effective in improving level of knowledge and attitude regarding memory loss among middle aged adults.

The results are similar to findings of study done by Dr. Jesus Manzanares, M.D (2010) who conducted a pre-experimental study to assess the effectiveness of Information Education Communication package on memory impairment among 45-65 years general population of 100 samples in Barcelona, which revealed that the pre-test mean knowledge score was 14.2 and standard deviation was 4.5, in post-test the mean knowledge score was 19.7 and standard deviation was 3.1, the obtained 't' value is 7.22 the pre-test mean attitude score was 13.5 and standard deviation was 3.8, in post-test the mean knowledge score was 19.3 and standard deviation was 2.8, the obtained 't' value is 6.97, which is significant at $p<0.001$ level.

The third objective of the study was to find out the relationship between knowledge and attitude regarding memory loss among middle aged adults.

In the pre-test mean score of knowledge was 14.23 and standard deviation was 3.65 and pre-test attitude mean score was 17.08 and standard deviation was 2.82. The calculated 'r' value was 0.86 which is positively correlated. In post-test the mean score of

knowledge was 24.41 and standard deviation was 2.89 and post-test attitude mean score was 25.65 and standard deviation was 1.93. The calculated 'r' value was 0.75 which is positively correlated. Hence the stated hypothesis H_3 is accepted. The findings revealed that there is a significant relationship between the knowledge and attitude regarding memory loss among middle aged adults.

The findings are similar to results of a study conducted by Ajitabh Alwin Thomas, (2012) who conducted an exploratory study on knowledge and attitude of high school teachers regarding suicide in adolescents of 60 samples in Ambala district. The study findings revealed that the mean knowledge score was 20.92, standard deviation was 3.37 and attitude mean score was 107.77, standard deviation was 10.10. The calculated 'r' value was 0.50 which is positively correlated.

The fourth objective of the study was to determine the association between the level of knowledge regarding memory loss among middle aged adults with their selected demographic variables.

The study findings revealed that in post-test the obtained chi square value for selected demographic variables (age, gender, religion, educational status, occupation, family monthly income, type of family, marital status, previous exposure to awareness regarding memory loss) has no significant association between the level of knowledge regarding memory loss among middle aged adults with their selected demographic variables. Hence the stated hypothesis H_4 is rejected.

The fifth objective of the study was to determine the association between the level of attitude regarding memory loss among middle aged adults with their selected demographic variables.

The study findings revealed that in post-test the obtained chi square value for selected demographic variables (age, gender, religion, educational status, occupation, family monthly income, type of family, marital status, previous exposure to awareness regarding memory loss) has no significant association between the level of attitude regarding memory loss among middle aged adults with their selected demographic variables. Hence the stated hypothesis H_5 is rejected.

The results are similar to findings of study done by BM Naveena, (2012), who conducted a pre-experimental study on evaluate the effectiveness of structured teaching program on knowledge and attitude regarding memory impairment among middle adults age group of 40-60 years of 60 samples in Bangalore, which revealed that the obtained chi square value between the knowledge and attitude score with the selected demographic variables like age, education, occupation, number of children, family income and source of information was not statistically significant at the level of $p<0.05$.

CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter deals with summary, conclusion, limitations and recommendations of the study. Further it includes implications for nursing practice, nursing education, nursing administration and recommendations for further nursing research.

Summary

The present study was to evaluate the effectiveness of Information Education Communication (IEC) on knowledge and attitude regarding middle aged adults in selected rural area at Coimbatore.

The objectives of the study were

- To assess the level of knowledge and attitude regarding memory loss among middle aged adults.
- To evaluate the effectiveness of Information Education Communication (IEC) on knowledge and attitude regarding memory loss among middle aged adults.
- To find out the relationship between the level of knowledge and attitude regarding memory loss among middle aged adults.
- To determine the association between the level of knowledge regarding memory loss among middle aged adults with their selected demographic variables.

- To determine the association between the level of attitude regarding memory loss among middle aged adults with their selected demographic variables.

A pre-experimental one group pre-test and post-test design was chosen for this study. 60 samples were selected for this study by using non-probability convenient sampling technique. Sample selection was based on inclusion and exclusion criteria.

A structured interview questionnaire was used for the study. It consists of three parts,

PART I : It consisted of demographic variables of middle aged adults such as age in years, gender, religion, educational status, occupation, family monthly income, type of family, marital status, previous exposure to awareness regarding memory loss, if yes specify the source of information.

PART II : Structured self-administered knowledge questionnaire to assess the level of knowledge regarding memory loss among middle aged adults. It consists of 30 multiple choice questions.

PART III : Three point likert scale to assess the level of attitude regarding memory loss among middle aged adults. It consists of 10 statements where it contains five positive and five negative statements.

The content validity was done with 7 experts; five nursing experts specialized in mental health nursing and one psychologist and one psychiatrist. Reliability of the tool was calculated by using test retest method

The duration of data collection period was 6 weeks. Samples were selected based on inclusion and exclusion criteria. The study samples were clearly explained about the study and obtained written consent from them. The pre-test level of knowledge and attitude were assessed by using structured self administered questionnaire followed by Information Education Communication (IEC) on memory loss for 40 minutes duration. After 7 days interval on 8^{th} day the post-test level of knowledge and attitude were assessed by using the same questionnaire.

The collected data were analyzed by using both descriptive statistics (mean, standard deviation) and inferential statistics ('t' test, chi square and Karl Pearson's 'r' correlation test) and the results were interpreted.

Major findings of the Study

The major study findings include:

- Among 60 subjects, the majority of them 22 (36.7%) were between 40-46 and 47-53 years of age, 42 (70%) were males, 53 (88.3%) were Hindus, 35 (58.4%) had primary education, 34 (56.7%) were self employed, 45 (75%) were receiving monthly income Rs.5001-10000, 37 (61.7%) were in nuclear family, 53 (88.3%) were married, 57 (95%) of them didn't have previous exposure to awareness regarding memory loss.
- In pre-test majority of the middle aged adults had 45 (75%) moderately adequate knowledge and 36 (60%) had moderately favorable attitude.
- In post-test majority of the middle aged adults had 53 (88.3%) adequate knowledge and 52 (86.7%) had favorable attitude.
- In relation to effectiveness of IEC package on knowledge regarding memory loss the pre-test knowledge mean score was 14.23, standard deviation was 3.65 and

post-test mean score was 24.41 and standard deviation 2.89 which was increased after administration of IEC. The calculated mean difference was 10.2 and the obtained 't' value 42.90 was significant at $p < 0.05$ level. The result shows that the IEC was effective in improving knowledge.

- In relation to effectiveness of IEC package on attitude regarding memory loss, the pre-test attitude mean score was 17.08, 2.82 and post-test mean score was 25.65. So 1.93 which was increased after IEC package intervened. The calculated mean difference was 8.57 and obtained 't' value 33.55 was significant at $p < 0.05$ level. The result shows that the IEC was effective in improving attitude.
- With regards to the relationship between knowledge and attitude regarding memory loss, the calculated 'r' value between pre-test knowledge and attitude was 0.86 and calculated 'r' value between post-test knowledge and attitude regarding memory loss was 0.75. It shows high degree positive correlation. Hence H_3 was accepted.
- With regards to association between the level of knowledge regarding memory loss among middle aged adults with their selected demographic variables, there was no association between the level of knowledge regarding memory loss middle aged adults with their selected demographic variables such as age in years, gender, religion, educational status, occupation, family monthly income, type of family, marital status, previous exposure to awareness regarding memory loss.
- With regards to association between the level of attitude regarding memory loss among middle aged adults with their selected demographic variables, there was no association between the level of attitude regarding memory loss middle aged adults with their selected demographic variables such as age in years, gender,

religion, educational status, occupation, family monthly income, type of family, marital status, previous exposure to awareness regarding memory loss.

Conclusion

The main conclusion drawn from this present study was Information Education Communication (IEC) on memory loss is effective in improving knowledge and attitude that denoted by significant difference between pre-test and post-test level of knowledge and attitude score. Samples became aware about memory loss and developed favorable attitude towards memory loss and found themselves comfortable and also expressed satisfaction, and also the investigator understood the needs and purpose of Information Education Communication (IEC) regarding memory loss and developed adequate knowledge and skills regarding approaches and methods in doing research. The findings of the study encourage the nurses to adopt this Information Education Communication (IEC) as a part of their awareness nursing education programme in primary care setting.

Implications of the Study

According to Tolsma (1995) the section of the research report that focuses on nursing implication usually includes specific suggestions for nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice

“Excellence is never an accident; it is always the result of high intention, sincere efforts, intelligent direction, skillful execution, and vision to see obstacles as opportunities”. The findings of the study clearly state that Information Education Communication (IEC) is effective in creating awareness regarding memory loss among

middle aged adults. The findings of the research when incorporated into practice is fruitful and enables the profession grow.

- Nurse can learn accurate assessment of level knowledge and attitude regarding memory loss.
- The nurse can develop sensitivity to the effects of Information Education Communication (IEC) on awareness regarding memory loss among middle aged adults.
- The nurses key role is to educate the family members in early identification and reporting appropriately in all the areas of teaching practice.
- The nurse should understand the importance of Information Education Communication (IEC) on memory loss as an awareness measure.
- The nurses can organize and teach about importance of awareness regarding memory loss to middle aged adults.
- The findings of the current study can be kept as baseline for providing instructions to clients with memory loss and normal middle aged adults and elderly.
- Community health nurse must take necessary steps to educate middle aged adults and care givers of patients with memory loss.

Nursing Education

Health personnel may separate the theory and practice while treating the patients with memory loss and tend to prevent memory loss can be beneficial for the middle aged adults and elderly.

- Ensure that the nurses learn the assessment of knowledge and attitude and effectiveness of Information Education Communication (IEC) on memory loss in awareness as an independent nursing action.
- In order to equip the nurses further in the care of patient with memory loss, the efforts should be made to improve and expand curriculum of nursing education should incorporate the aspects of memory loss.
- Periodic seminars and group discussion can be arranged regarding memory loss as nursing implication for the nursing students and staff nurses.
- The knowledge of the working staff nurses can be enhanced by incorporating in service education using vivid teaching strategies.
- Make available literature related to memory loss and its prevention in creating awareness in the library for student reference.
- Mass health programmes can be conducted on memory loss at regular interval in community and hospital.
- Nursing students must be able to identify the memory loss of the patients.

Nursing Administration

"We must adjust to an ever changing road, while holding on to one unchanging principles". The investigator suggests that nurse administrator should initiate the following:

- Regular supervision and periodic evaluation of the teachers' performance in the classes are needed for further incorporating these aspects in the care of patients.

- Nurse administrator should feel responsible to provide nurses with substantive continuing education opportunities if they expect them to provide high quality care.
- Nursing administrator should make necessary arrangement in community based mass health education regarding memory loss.
- Nurse administrator develops the up to date knowledge regarding memory loss.
- Nurse administrator strategically plan and implement the awareness programme regarding memory loss to middle aged adults.

Nursing Research

The essence of research is to build up a body of knowledge in nursing. Hence it is an enduring profession. The effectiveness of the research study can be made by further implications of the study.

- The study helps other researcher as baseline information about knowledge and attitude regarding memory loss.
- Nursing health research studies need to be concentrate on the behavior modification of the people by developing unique teaching programmes.
- Encourage further research studies on the effectiveness of Information Education Communication (IEC) on memory loss intervention in creating awareness among middle aged adults.
- Disseminate the findings through the conferences, seminars publication in professional national and international journals and World Wide Web.
- Add to the research review regarding the effectiveness of IEC on memory loss in creating awareness among middle aged adults.

Limitations

- Since the sample size is limited, so the study findings cannot be generalized.
- The investigator found difficult to assemble the subjects at a time in rural area to provide Information Education Communication (IEC).

Recommendations

- A similar study can be conducted with large sample size.
- The study can be conducted in different settings such as hospitals and psychiatric nursing homes
- The same study can be conducted to assess the knowledge and attitude regarding memory loss among student nurses posted in psychiatric wards.
- Comparative study can be conducted between urban and rural population.
- The study can be conducted with different samples such as older adults and care givers of patients with memory loss.
- A follow up study could be conducted to evaluate the utility and effectiveness of IEC on prevention and management of signs and symptoms of memory loss.
- A study can be conducted to compare the effectiveness of IEC programme with other strategies like Self Instructional Module (SIM), video assisted learning, role play.
- A longitudinal study can be done with post-test after one or two months to see the retention of knowledge and attitude regarding memory loss.
- Similar study can be repeated with the provision of an information booklet.

REFERENCES

BOOK REFERENCES

- Ann Marriner Tomey, Martha Raile Alligood. (2006). Nursing Theorists and Their Work. (6th ed.) Missouri: Mosby Publication.
- Anne Waugh, Allison Grant. (2010). Ross and Wilson Anatomy and Physiology Health and Illness. (11th ed.) Philadelphia: Churchill livingstone Elsevier.
- Bare, G. Brenda, Smeltzer, C. Suzanna. (2005). Brunner and Suddarths Text Book of Medical Surgical Nursing. (10th ed.) Philadelphia: Lippincott publication.
- Basavanthappa, B.T. (2003). Nursing Research. (1st ed.) New Delhi: Jaypee brothers medical publishers.
- Dorothy. et.al. (1995). Fundamentals of Nursing Research. (2nd ed.) USA: Jones and Bartlett publication.
- Elizabeth Hurlock. (1993). Developmental Psychology. (5th ed.) New Delhi: Tata Mcgraw Hill Publication.
- Forthinash, KM. (2008).Psychiatric Mental Health Nursing. (4th Ed.) Canada: Mosby Elsevier Publication.
- Gupta, G.S Kappor. (1990). Fundamentals of Mathematical Statistics. New Delhi: Sultan Chand Publications.
- Jacob A. (2002). Handbook of Psychiatric Nursing. (2nd ed.) Delhi: Vikas Publishing House.
- Kaplan & Sadock's. (2008). Concise Text Book of Clinical Psychiatry. (3rd ed.) Philadelphia: Lippincott Williams and Wilkins Company.

- Kothari, C.R. (2004). Research Methodology Methods and Techniques. (2nd ed.) New Delhi: New Age International (P) Ltd Publishers.
- Lalitha K. (2005) Mental Health and Psychiatric Nursing An Indian Perspective. (2nd ed.) Bangalore: VMG Book House.
- Mahajan, B.K. (1991). Methods In Biostatistics. (5th ed.) New Delhi: Jaypee Brothers Medical Publishers.
- Mangal SK. (2007). General Psychology. (1st ed.) New Delhi: Sterling Publishers.
- Mary C Townsend. (2010). Essentials of Psychiatric Mental Health Nursing. (6th ed.) Philadelphia: F.A.Davis Company.
- Nancy Burns, Susan, K. Groove. (2005). The Practice Of Nursing Research. (5th ed.) Missouri: Elsevier Saunders Publications.
- Neeraja K.P. (2009). Psychiatric Mental Health Nursing. (1st ed.) New Delhi: Jaypee Brothers Medical Publishers.
- Niraj Ahuja, JN Vyas. (1999). Textbook of Postgraduate Psychiatry. (2nd ed.) New Delhi: Jaypee Brothers Medical Publishers.
- Polit & Beck. (2004). Nursing Research Principles and Methods. (7th ed.) Philadelphia: Lippincott Williams and Wilkins Company.
- Polit, F. Denise Hungler. (2001). Nursing Research Principles and Methods. (5th ed.) Philadelphia: Lippincott Publication.
- Ramkumar Gupta. (2009). Mental Health Nursing. (1st ed.) Gulbarga: Dr. P.S.Shankar Pratishnana Publication.
- Sembulingam k, Prema Sembulingam. (2010). Essentials of Medical Physiology. (5th ed.) New Delhi: Jaypee Brothers Medical Publishers.

- Shives, LR. (2006). Basic Concept of Psychiatric Mental Health Nursing. (17th ed.) Philadelphia: Lippincott Publication.
- Sreevani R. (2010). A Guide to Mental Health and Psychiatric Nursing. (3rd ed.) New Delhi: Jaypee Brothers Medical Publishers.
- Sreevani R. (2013). Psychology for Nurses. (2nd ed.) New Delhi: Jaypee Brothers Medical Publishers.
- Stuart, G.W. (2009). Principles and Practice of Psychiatric Nursing. (9th ed.) Missouri: Mosby Elsevier Publication.
- Sundar Rao, P.S.S. And Richard. (2004). An Introduction To Biostatistics. (3rd ed.) New Delhi: Prentice-Hall of India Private Ltd.
- Wesley, L. Rubby. (1992). Nursing Theories and Models. (2nd ed.) Pennsylvania: Spring House Publication.

JOURNAL REFERENCE

- Anna Derwinger. (2010). Effectiveness of Mnemonic Training Versus Self Generated Strategy Training in Memory among Older Adults. DOI Journal of Psychiatry. 12(4): 202-204.
- Anuratha Panda. (2009). Management of Memory Impairment. Journal of Health Management. 11(3): 445-472.
- Barker A. (1995) A Prevalence Study of Age Associated Memory Impairment. The British Journal of Psychiatry.167 (5):642-648.
- Chitra. K. (2009). Complementary and Alternative Therapy for Memory Problems. Indian Journal of Holistic Nursing. 6(4): 7-10.
- Frederick W. (2007). Effect of Memory Impairment on Training Outcomes. Journal of International Neuropsychiatric Society. 13(6): 953-960.
- Hanninen T. (1995). A Follow up Study of Age Associated Memory Impairment. Journal of the American Geriatric Society. 43(9): 1007-1015.
- Koivisto K. (1995). Prevalence of Age Associated Memory Impairment. Neurology Journal.45 (4): 741-747.
- Larrabee GJ, Crook TH. (1994). Estimated Prevalence of Age Associated Memory Impairment. International Psycho Geriatrics Journal / IPA.6 (1):95-104.
- Reinikainen K.J. (1995). Prevalence of Age Associated Memory Impairment. The Official Journal of the American Academy of Neurology. 45(4) 821-824.
- Sahabanathul Missiriya. (2012) Memory Loss and its Prevention. Indian Journal of Psychiatric Nursing. 3(1): 62-64.
- Sarla Takoo. (2013). IEC on Knowledge of pregnant mothers regarding warning signs of pregnancy. The Nursing Journal of India. 4(6): 35-36.

- Sharadha Ramesh. (2011). IEC Strategy on Protein Energy Malnutrition among Mothers. International Journal of Nursing Education. 3(1): 49-50.
- Thilagam K. (2011). Factors Influencing Memory among Adults. Journal of Biological sciences. 16(2): 23-26.
- Veena Sharma. (2011). Pharmacological Management of Memory Loss. Indian Journal of Pharmacology. 43(4): 381-384.
- Zarit SH, Cole KD, Guider RL. (1981) Memory Training Strategies and Subjective Complaints of Memory in the Aged. The Gerontologist Journal of Psychiatry. 21 (2):158–164.

NET REFERENCE

- David T Derrer. (Aug 2013). Memory Loss. Retrieved on (Aug27, 2013) from http://www.webmd.com/brain/memory-loss.
- Derwinger A. (Sep 2003). Remembering Numbers in Old Age. Retrieved on (Sep 01, 2003) from http://www.ingentaconnect.com/content/routledg/anec;jsessionid.
- Ertal KA. (April 2011). Memory loss: 7 tips to Improve Memory. Retrieved on (April30, 2011) from http://www.mayoclinic.org/memory-loss.
- Hill RD. (June 1987). Imagery mnemonic training in a patient with primary memory loss. Retrieved on (June 12, 1987) from "http://www.ncbi.nlm.nih.gov/pubmed/3268209" Aging.
- Jane E. Brody 2/16/(Feb 2012) Memory Loss Symptoms and Management. Retrieved on (Feb16, 2012) from http://www.nytimes.com/health/guides/symptoms/memory-loss/overview.html.
- Melinda Smith, M.A, Lawrence Robinson. (Nov 2013). Age - Related Memory Loss. Retrieved on (Nov21, 2013) from http://www.helpguide.org/life/prevent_memory_loss.html.
- Melissa Conrad Stoppler. (Jan 2013) Memory Loss: Symptoms and Signs. Retrieved on (Jan17, 2014) from http://www.medicinenet.com/memory_loss/symptoms.html.
- Naveena BM. (July 2012). Structured Teaching Program on Memory Impairment. Retrieved on (July 21, 2012) from http://hdl.handle.net/123456789/8752.
- Robert D (August 2011). Mnemonic training enhances memory among older adults. Retrieved on (August 13, 2011) from "http://www.tandfonline.com/action/doSearch?action.

- Robert Jasmer H. (April 2011). Management of Memory loss. Retrieved on (April22, 2011) from http://www.currentnursing.com/management_of_memory loss//.
- Salynn Boyles R. (Jan 2012) Memory Loss May Occur As Early As 40s. Retrieved on (Jan 03, 2012) from http://www.webmd.comHealth News//memory loss.
- Samantha. (Sep 2010). 10 Natural Memory Loss Remedies. Retrieved on (Sep19, 2010) from http://www.care2.com/greenliving/10-natural-memory-loss-remedies.html.
- Winifred Sachs. (March 2012) Preventing Memory Loss. Retrieved on (March 12, 2012) from http://www.health.harvard.edu/newsweek/Preventing_memory_loss.html.
- http://en.wikipedia.org/wiki/Amnesia.
- http://en.wikipedia.org/wiki/ Aging and memory.

APPENDIX - A

LETTER SEEKING AND GRANTING PERMISSION TO CONDUCT THE STUDY AT ARISIPALAYAM RURAL AREA, COIMBATORE

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

Madukkarai Market Road,
P.B. No. 4431
Industrial Estate Post,
COIMBATORE - 641 021.

Phone : 0422 - 2675641, 2672705
Fax : 0422 - 2676016
Email : ceandct@dataone.in
ceandct@gmail.com
Website: www.annaimeenakshi.in

Ref. No. *Date : .....*

Ref: AMC/108/2013 June 25, 2013

To

Medical Officer,
Primary Health Centre,
Arisipalayam,
Coimbatore.

Respected Sir/ Madam,

Ms. Maruthu.G, is a student of Annai Meenakhi College of Nursing, Coimbatore. Studying M.Sc., (Nursing) II year, she is conducting **"A Study to Evaluate *the Effectiveness of Information Education Communication (IEC) on* Knowledge Regarding Memory Loss Among Middle Adults in Selected Rural Area at Coimbatore"**.

This is for her research work to be submitted to the Tamil Nadu Dr. M.G. R. Medical University in Partial fulfillment of the university requirement for the award of M.Sc., *(Nursing)* Degree.

As a part of her study she would like to collect the data from the middle adults in selected rural areas under Arisipalayam Primary Health Centre. The Student will furnish project personally. The student will follow the norms, ethics and policies practiced in community setting.

Thanking you,

Yours faithfully,

மருத்துவ அலுவலர்
அரசு ஆரம்ப சுகாதார நிலையம்
அரிசிபாளையம்,
கோயமுத்தூர் - 641 032.

PRINCIPAL
Annai Meenakshi College of Nursing
COIMBATORE-641 021.

APPENDIX - B

LETTER REQUESTING EXPERTS OPINION FOR

CONTENT VALIDITY OF THE TOOL

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

Madukkarai Market Road,
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Fax : 0422 - 2676016
Email : ceandct@dataone.in
ceandct@gmail.com
Website: www.annaimeenakshi.in

Ref. No.

Requisition for Content Validity

Date : .....

From

Ms. Maruthu.G
II - Year M.Sc.(N)
Annai Meenakshi College of Nursing,
Coimbatore – 21.

Through
The Principal,
Annai Meenakshi College of Nursing,
Coimbatore – 21.

To

Respected Sir/Madam,

Sub: Requisition for expert opinion and suggestion for content validity of the tools – Reg.

I am a student of M.Sc., Nursing II year of Annai Meenakshi College of Nursing, Coimbatore, affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai. As a partial fulfillment of the M.Sc., Nursing programme, I am conducting "**A Study to Evaluate the Effectiveness of Information Education Communication (IEC) on Knowledge Regarding Memory Loss Among Middle Adults in Selected Rural Area at Coimbatore**". I am hereby enclosing the following:

1. Statement and objectives of the study
2. Hypotheses
3. Methodology
4. Tool
5. Intervention
6. Content Validity certificate.

I Kindly request your guidance and valuable suggestions on the content submitted with this. It would be helpful for me to proceed my dissertation.

Thanking you,

Yours faithfully,

Place: Coimbatore
Date:

PRINCIPAL
Annai Meenakshi College of Nursing
COIMBATORE-641 021.

APPENDIX - C

LIST OF EXPERTS CONSULTED FOR CONTENT VALIDITY

Mr.P.T. Saliendran, Ph.D.,

Clinical psychologist,

KMCH hospital,

Coimbatore.

Mrs. R. Tamilselvi, M.Sc., Nursing,

Professor & HOD of Psychiatric Nursing,

KG College of Nursing,

Coimbatore.

Mrs. Jamuna Rani, M.Sc., Nursing,

Professor & HOD of Psychiatric Nursing,

KMCH College of Nursing,

Coimbatore.

Mrs. S. Vanitha, M.Sc., Nursing,

Professor & HOD of Psychiatric Nursing,

Sri Gokulam College of Nursing,

Selam.

Mrs. R. Nuziba Begum, M.Sc., Nursing,
Professor & HOD of Psychiatric Nursing,
Sri Ramakrisna College of Nursing,
Coimbatore.

Mr. Sankaraiah, M.Sc., Nursing,
Asso.professor,
National Institute of Mental Health and Neuro Sciences,
Bangalore.

Mrs. Susila Kumari, M.Sc., Nursing,
Professor & HOD of Psychiatric Nursing,
Metras Medical College Hospital,
Chennai.

APPENDIX D

STRUCTURED SELF ADMINISTERED QUESTIONNAIRE (ENGLISH)

SECTION – A

DEMOGRAPHIC DATA

Respected participants,

Read the following items carefully and complete them by placing tick mark (√) in the portions provided.

Sample no:

1. Age in years
   a. 40-46 years ( )
   b. 47-53 years ( )
   c. 54-60 years ( )

2. Gender
   a. Male ( )
   b. Female ( )

3. Religion
   a. Hindu ( )
   b. Muslim ( )
   c. Christian ( )
   d. Others ( )

4. Educational status
   a. Primary education ( )
   b. Secondary education ( )
   c. Higher secondary education ( )
   d. Graduate / equivalent ( )
   e. No formal education ( )

5. Occupation

a. Government Employee ( )
b. Private Employee ( )
c. Self Employed ( )
d. Un Employed ( )

6. Family monthly income

a. Below Rs.5000 ( )
b. Rs.5001 - Rs.10000 ( )
c. Rs.10001 - Rs.20000 ( )
d. Rs.20001 and above ( )

7. Type of family

a. Nuclear family ( )
b. Joint family ( )
c. Extended family ( )

8. Marital status

a. Married ( )
b. Unmarried ( )
c. Widow (or) widower ( )
d. Divorced (or) Separated ( )

9. Previous exposure to awareness regarding memory loss

a. Yes ( )
b. No ( )

10. If yes specify the source of information

a. Mass media ( )
b. Health personnel ( )
c. Relatives and friends ( )

BLUE PRINT OF QUESTIONNAIRE FOR THE ASSESSMENT OF KNOWLEDGE REGARDING MEMORY LOSS

SI.NO	CONTENT	NO.OF QUESTIONS	SI.NO.OF QUESTIONS
1	General information about memory loss (meaning, vulnerable groups and prevalence)	3	1-3
2	Anatomy and physiology of brain & cerebral cortex	1	4
3	Causes of memory loss	4	5-8
4	Risk factors of memory loss	3	9-11
5	Signs and symptoms of memory loss	4	12-15
6	Diagnosis of memory loss	2	16-17
7	Management of memory loss	6	18-23
8	Prevention of memory loss	5	24-28
9	Effects of memory loss in normal life	2	29-30

SECTION – B

STRUCTURED KNOWLEDGE QUESTIONNAIRE TO ASSESS THE KNOWLEDGE REGARDING MEMORY LOSS AMONG MIDDLE ADULTS

1. Memory loss is _____
    a. Forgetfulness ( )
    b. Lack of attention ( )
    c. Impairment in thinking ( )
2. Memory loss is common among _____
    a. Young adults ( )
    b. Children ( )
    c. Elderly ( )
3. Memory loss is the primary symptom of _____
    a. Psychosis ( )
    b. Alzheimer's disease ( )
    c. Phobia ( )
4. Memory loss is caused by progressive irreversible degeneration of this part of brain_____
    a. Cerebral cortex ( )
    b. Thalamus ( )
    c. Cerebellum ( )
5. The common social cause of memory loss is_____
    a. Alcoholism ( )
    b. Smoking ( )
    c. Ritual practices ( )
6. Drug which causing memory loss is_____
    a. Sugar tablets ( )
    b. Sleeping pills ( )
    c. Anticonvulsant drugs ( )
7. A vitamin deficiency that cause memory loss is_____
    a. Vitamin A ( )
    b. Vitamin B6 & B12 ( )
    c. Vitamin C ( )

8. Disease that may cause memory loss is_____
    a. Uterus disease ( )
    b. Thyroid disease ( )
    c. Bone disease ( )
9. The risk factor associated with memory loss is_____
    a. Head injury ( )
    b. Cancer ( )
    c. Fracture on extremities ( )
10. A treatment that may result in memory loss is_____
    a. Insulin therapy ( )
    b. Renal surgery ( )
    c. Electroconvulsive therapy ( )
11. The reason for memory loss is_____
    a. Poor hygiene ( )
    b. Poor sleep ( )
    c. Poor personality ( )
12. Behavioral symptom of memory loss is_____
    a. Performing work slowly ( )
    b. Searching thinks again and again ( )
    c. Excessive talking ( )
13. The emotional symptom of memory loss is_____
    a. Happiness ( )
    b. Irritability ( )
    c. Peaceful ( )
14. Memory loss influences _____
    a. Perception ( )
    b. Day to day functions ( )
    c. Concentration ( )
15. The common symptom of memory loss is_____
    a. Misplacing things ( )
    b. Exhibition of tension in completion of task ( )
    c. Fast thinking process ( )

16. The test used to detect brain degeneration is_____

a. X-ray ( )
b. MRI-scan ( )
c. Ultrasonography ( )

17. The cognitive test used to identify memory loss is_____

a. Attitude test ( )
b. Memory test ( )
c. Intelligence test ( )

18. Regular walking exercise will helps to improve_____

a. Memory ( )
b. Aptitude ( )
c. Attitude ( )

19. The food which helps to strengthen the memory is_____

a. Spinach ( )
b. Dhal ( )
c. Cereals ( )

20. Drinking hot beverages like tea and coffee leads to_____

a. Memory loss ( )
b. Memory improvement ( )
c. No changes on memory ( )

21. Memory loss can be managed with_____

a. Protein rich diet ( )
b. Vitamin D rich diet ( )
c. Folic acid rich diet ( )

22. The herbs which helps to improve memory retention is_____

a. Ginger ( )
b. Neem ( )
c. Gingko biloba ( )

23. The type of mental game which improve memory is_____

a. Cricket ( )
b. Puzzles ( )
c. Tennis ( )

24. Memory loss can be_____

a. Untreatable ( )
b. Preventable ( )
c. Unpreventable ( )

25. The memory loss can be prevented by_____

a. Milk and milk products ( )
b. Variety of colored fruits and vegetables ( )
c. Fat rich diet ( )

26. The mnemonic technique which helps to prevent memory loss is_____

a. Rhymes ( )
b. Reading books ( )
c. Crosswords ( )

27. The best way to prevent memory loss is_____

a. Controlling diabetes ( )
b. Treating cancer ( )
c. Doing heavy works ( )

28. Memory loss can be effectively prevented by_____

a. Stress management techniques ( )
b. Alternative system of medicines ( )
c. Anxiety management techniques ( )

29. The effect of memory loss in work place is_____

a. Looses interest in work ( )
b. More interest in work ( )
c. No changes in work interest ( )

30. The effect of Memory loss in person's social life is_____

a. Unable to follow social norm ( )
b. Able to follow social norm ( )
c. More involvement in social function ( )

SECTION – C

LIKERT SCALE FOR ASSESSING THE ATTITUDE REGARDING MEMORY LOSS AMONG MIDDLE AGED ADULTS

Instruction:

Listed below were 10 statements. The participants has to read each one carefully and select the most appropriate statement by tick (√) mark.

S.No	STATEMENTS	Disagree	Uncertain	Agree
1	Normal age related physical and psychological changes may cause memory loss.			
2	Depression is not a significant cause for memory loss.			
3	Poorly controlled diabetes mellitus can cause memory loss.			
4	Changes in personality will not be present in people with memory loss.			
5	People with memory loss have difficulty in performing familiar tasks.			
6	Multitasking helps to improve memory.			
7	People were not at risk if no one in family has memory loss.			
8	Alleviating stress will behelpful in improving memory.			
9	Adequate and regular sleep is an effective measure to prevent memory loss.			
10	People with memory loss will be harmful to others.			

APPENDIX E

STRUCTURED SELF ADMINISTERED QUESTIONNAIRE (TAMIL)

பகுதி I

தகவலாளர் பற்றிய விபரம்

மதிப்புக்குரியோரே,

கவனமாக வாசித்தபின் சரியான விடையில் (**V**) குறியிடவும்.

மாதிரி எண் :

தேதி :

1. வயது (வருடத்தில்)

அ) 40–46 ( )

ஆ) 47–53 ( )

இ) 54–60 ( )

2. பாலினம்

அ) ஆண் ( )

ஆ) பெண் ( )

3. மதம்

அ) இந்து ( )

ஆ) கிறிஸ்தவர் ( )

இ) முஸ்லீம் ( )

ஈ) மற்றவை ( )

4. கல்வித்தகுதி

அ) ஆரம்பநிலைக் கல்வி ( )

ஆ) உயர்நிலைக் கல்வி ( )

இ) மேல்நிலைக் கல்வி ( )

ஈ) பட்டப்படிப்பு / அதற்கு நிகரான படிப்பு ( )

உ) படிக்காதவர் ( )

5. தொழில்

அ) அரசு ஊழியர் ( )

ஆ) தனியார் ஊழியர் ( )

இ) சுயதொழில் செய்பவர் ( )

ஈ) வேலையற்றவர் ( )

6. குடும்ப மாத வருமானம்

அ) ரூ.5000/-க்கும் குறைவாக ( )

ஆ) ரூ. 5001/- – ž . 10000/- ( )

இ) ž . 10001/- – ž . 20000/- ( )

ஈ) ž . 20001/-க்கும்மேல் ( )

7. குடும்ப வகை

அ) தனிக்குடும்பம் ( )

ஆ) கூட்டுக்குடும்பம் ( )

இ) விரிவான குடும்பம் ( )

8. திருமண நிலை

அ) திருமணமானவர் ( )

ஆ) திருமணமாகாதவர் ( )

இ) கணவன் / மனைவியை இழந்தவர் ( )

ஈ) விவாகரத்துப் பெற்றவர் / பிரிந்து வாழ்பவர் ( )

9. நீங்கள் நினைவிழப்பு பற்றிய விழிப்புணர்வு செய்திகளை அறிந்திருப்பவரா ?

அ) ஆம் ( )

ஆ) இல்லை ( )

10. ஆம் எனில், தகவல் மூலத்தைக் குறிப்பிடவும்.

அ) மக்கள் தொடர்பு அமைப்புகள் (அ) ஊடகங்கள் ( )

ஆ) சுகாதார (அ) மருத்துவ பணியாளர்கள் ( )

இ) உறவினர்கள் மற்றம் நண்பர்கள் ( )

பகுதி II

நினைவிழப்பு பற்றிய விழிப்புணர்வு திறன் கண்டறியும் வினாக்கள்

1. நினைவு இழப்பு என்பது .. ..

அ) மறதி ( )

ஆ) கவனம் இல்லாமை ( )

இ) சிந்தனை குறைபாடுகள் ( )

2. நினைவு இழப்பு பொதுவாக இவர்களிடம் காணப்படுகிறது .. ..

அ) இளைஞர்கள் ( )

ஆ) குழந்தைகள் ( )

இ) முதியவர்கள் ( )

3. நினைவு இழப்பு இந்த நோயின் முதன்மை அறிகுறியாக உள்ளது .. ..

அ) மனச்சிதைவு ( )

ஆ) மறதி நோய் ( )

இ) அளவுக்கு மீறிய அச்சம் ( )

4. நினைவு இழப்பு மூளையின் எந்தப் பகுதியில் ஏற்படும் பாதிப்பினால்

உருவாகிறது .. ..

அ) பெருமூளை, புறணி (அ) வெளிப்புறம் ( )

ஆ) மூளை நரம்பு முடிச்சு ( )

இ) சிறுமூளை ( )

5. நினைவு இழப்பு பொதுவான சமூக காரணம் .. ..

அ) மதுப் பழக்கம் ( )

ஆ) புகைப்பிடித்தல் ( )

இ) கலாசார சடங்கு முறைகள் ( )

6. நினைவு இழப்பினை ஏற்படுத்தும் மருந்து .. ..

அ) சர்க்கரை மாத்திரைகள் ( )

ஆ) தூக்க மாத்திரைகள் ( )

இ) வலிப்பு மாத்திரைகள் ( )

7. கீழ்க்கண்ட வைட்டமின் குறைபாட்டினால் நினைவிழப்பு ஏற்படுகிறது .. ..

அ) வைட்டமின் ஏ ( )

ஆ) வைட்டமின் பி6 மற்றும் பி12 ( )

இ) வைட்டமின் சி ( )

8. நினைவிழப்பை ஏற்படுத்தும் நோய் .. ..

அ) கருப்பை நோய் ( )

ஆ) தைராய்டு நோய் ( )

இ) எலும்பு நோய் ( )

9. நினைவிழப்பு தொடர்புடைய அபாயக் காரணி .. ..

அ) தலையில் காயம் ஏற்படுதல் ( )

ஆ) புற்றுநோய் ( )

இ) கை, கால்களில் எலும்பு முறிவு ( )

10. பின்வருவனவற்றுள் நினைவிழப்பை ஏற்படுத்தும் சிகிச்சை முறை .. ..

அ) இன்சுலின் சிகிச்சை ( )

ஆ) சிறுநீரக அறுவை சிகிச்சை ( )

இ) மின் அதிர்வு சிகிச்சை ( )

11. நினைவிழப்பிற்கான காரணம் .. ..

அ) சுகாதாரக் குறைபாடு (அ) சுத்தமின்மை ( )

ஆ) தூக்கமின்மை ( )

இ) ஆளுமைத்திறன் குறைபாடு ( )

12. நினைவிழப்பினால் நடத்தையில் ஏற்படும் அறிகுறி .. .. ..

அ) மெதுவாக வேலை செய்தல் ( )

ஆ) பொருட்களை மீண்டும் மீண்டும் தேடுதல் ( )

இ) அதிகப்படியான பேச்சு ( )

13. நினைவிழப்பினால் உணர்வுகளில் ஏற்படும் மாற்றங்கள் .. ..

அ) மகிழ்ச்சி (அ) சந்தோஷம் ( )

ஆ) எளிதில் சீற்றம் கொள்கிற பண்பு (அ) எரிச்சல் தன்மை ( )

இ) அமைதி ( )

14. நினைவிழப்பு இதனை பாதிக்கிறது .. ..

அ) உணரும்திறன் ( )

ஆ) அன்றாட வாழ்க்கை ( )

இ) கவனம் ( )

15. நினைவிழப்பின் பொதுவான அறிகுறி .. ..

அ) பொருட்களை இடம் மாற்றி வைத்தல் ( )

ஆ) பதட்டமின்றி வேலையை முடிப்பது ( )

இ) சிறந்த சிந்தனை திறன் ( )

16. மூளை பாதிப்புகளை கண்டறிய உதவும் பரிசோதனை .. ..

அ) X கதிர்படம் ( )

ஆ) MRI ஸ்கேன் ( )

இ) அல்ட்ராசோனோகிராபி ( )

17. நினைவிழப்பினை கண்டறிய பயன்படுத்தப்படும் சோதனை .. ..

அ) அணுகுமுறை சோதனை ( )

ஆ) நினைவக சோதனை ( )

இ) நுண்ணறிவு சோதனை ( )

18. வழக்கமான தொடர்ந்த நடைப்பயிற்சி இதனை மேம்படுத்த உதவுகிறது .. ..

அ) ஞாபக சக்தி ( )

ஆ) தகுதி (சூட்சும புத்தி) (அ) உள்சார்பு ( )

இ) மனோபாவம் (அ) அணுகுமுறை ( )

19. நினைவுத்திறனை வலுப்படுத்த உதவும் உணவு .. ..

அ) பசலைக் கீரை ( )

ஆ) பருப்பு வகைகள் ( )

இ) தானிய வகைகள் ( )

20. தேநீர் மற்றும் காபி போன்ற சூடான பானங்களை அருந்துவதால் .. ..

அ) நினைவாற்றல் இழப்பு ஏற்படுகிறது ( )

ஆ) நினைவுத்திறன் மேம்படுகிறது ( )

இ) நினைவுத்திறனில் எந்த மாற்றமும் ஏற்படுவதில்லை ( )

21. நினைவிழப்பிற்கான உணவு மேலாண்மை .. ..

அ) புரதம் நிறைந்த உணவு ( )

ஆ) வைட்டமின் நிறைந்த உணவு ( )

இ) இரும்பு சத்து நிறைந்த உணவு ( )

22. ஞாபக சக்தியை மேம்படுத்த உதவும் மூலிகை .. ..

அ) இஞ்சி ( )

ஆ) வேம்பு ( )

இ) அத்தி ( )

23. ஞாபக சக்தியை மேம்படுத்த உதவும் மன விளையாட்டு .. ..

அ) கிரிக்கெட் ( )

ஆ) புதிர்கள் ( )

இ) டென்னிஸ் ( )

24. நினைவு இழப்பினை .. .. ..

அ) குணப்படுத்த இயலாதது ( )

ஆ) தடுக்க இயலும் ( )

இ) தடுக்க இயலாதது ( )

25. நினைவிழப்பை தடுக்க உதவுவது .. .. ..

அ) பால் மற்றும் பால் பொருட்கள் ( )

ஆ) வெவ்வேறு நிறவகை பழங்கள் மற்றும் காய்கறிகள் ( )

இ) கொழுப்புச்சத்து நிறைந்த உணவு ( )

26. நினைவாற்றல் இழப்பை தடுக்க உதவும் நினைவூட்டு நுட்பம் .. .. ..

அ) பாடல்கள் ( )

ஆ) புத்தகம் வாசித்தல் ( )

இ) குறுக்கெழுத்து ( )

27. நினைவாற்றல் இழப்பைத் தடுக்க சிறந்த வழி .. .. ..

அ) நீரிழிவு நோயை கட்டுப்படுத்துதல் ( )

ஆ) புற்றுநோய் சிகிச்சை ( )

இ) கடுமையான வேலை செய்தல் ( )

28. நினைவிழப்பை இதன் மூலம் திறம்பட தடுக்க முடியும் .. .. ..

அ) மன அழுத்தத்திற்கான மேலாண்மை ( )

ஆ) கோபத்திற்கான மேலாண்மை ( )

இ) மாற்று மருத்துவ முறைகள் ( )

29. வேலை செய்யும் இடத்தில் நினைவிழப்பினால் ஏற்படும் விளைவுகள் .. .. ..

அ) வேலையில் ஆர்வமின்மை ( )

ஆ) வேலையில் அதிக ஆர்வம் ( )

இ) வேலையின் ஆர்வத்தில் மாற்றமின்மை ( )

30. நினைவிழப்பினால் தனி மனிதனின் சமூக வாழ்வில் ஏற்படும் விளைவுகள் .. .. ..

அ) சமூக நெறிகளை கடைப்பிடிக்க இயலாமை ( )

ஆ) சமூக நெறியை கடைப்பிடித்தல் ( )

இ) சமூக செயல்பாடுகளில் அதிக ஈடுபாடு ( )

பகுதி இ

நினைவிழப்பு தொடர்பான அணுகுமுறையை மதிப்பீடு செய்வதற்கான லைகெர்ட் அளவீடு

அன்பான பங்கேற்பாளர்களே,

கீழே பட்டியலிடப்பட்டுள்ள 10 அறிக்கைகளை கவனமாக வாசித்தபின்

பொருத்தமான அறிக்கையில் (**√**) குறியிடவும்.

வ. எண்.	அறிக்கைகள்	ஏற்றுக் கொள்ள வில்லை	உறுதியாக கூற முடியாது	ஏற்றுக் கொள்கிறேன்
1	இயல்பான வயது முதிர்ச்சியினால் ஏற்படும் உடல் மற்றும் மனோதத்துவ மாற்றங்கள் நினைவிழப்பினை ஏற்படுத்தும்.			
2	மனச்சோர்வு நினைவாற்றல் இழப்புக்கு ஒரு குறிப்பிடத்தகுந்த காரணி அல்ல.			
3	கட்டுப்படுத்தப்படாத நீரிழிவு நோய் நினைவிழப்பினை ஏற்படுத்தும்.			
4	நினைவிழப்பினால் பாதிக்கப்பட்டவர்களின் ஆளுமைத்திறனில் மாற்றம் ஏற்படுவதில்லை.			
5	நினைவிழப்பு உள்ளவர்களுக்கு நன்கு பழக்கமான பணிகளை மேற்கொள்வதில் சிரமம் ஏற்படும்.			
6	ஒரே நேரத்தில் ஒன்றுக்கு மேற்பட்ட பணிகளை செய்வது நினைவுத்திறனை மேம்படுத்த உதவும்.			
7	குடும்பத்தில் ஒருவரும் நினைவிழப்பினால் பாதிக்கப்படாத மக்களுக்கு நினைவிழப்பு ஏற்படும் அபாயம் இல்லை.			
8	மன அழுத்தத்தை குறைப்பது நினைவுத்திறனை மேம்படுத்த உதவும்.			
9	போதிய மற்றும் வழக்கமான உறக்கம் நினைவிழப்பினை தடுக்க உதவும் பயனுள்ள நடவடிக்கை ஆகும்.			
10	நினைவிழப்பு உள்ளவர்கள் பிறருக்கு தீங்கு விளைவிப்பார்கள்.			

APPENDIX F

SCORING KEY

ANSWER KEY FOR KNOWLEDGE QUESTIONNAIRRE:

QUESTION NUMBERS	ANSWERS	SCORE
1	a	1
2	c	1
3	b	1
4	a	1
5	a	1
6	b	1
7	b	1
8	b	1
9	a	1
10	c	1
11	b	1
12	b	1
13	b	1
14	b	1
15	a	1
16	b	1
17	b	1
18	a	1
19	a	1
20	b	1
21	b	1
22	c	1
23	b	1
24	b	1
25	b	1
26	a	1
27	a	1
28	a	1
29	a	1
30	a	1

SCORING:

Section – B contains 30 questions, in that each answer carries score like

Correct Answer - 1

Wrong Answer - 0

The total maximum score is about 30 marks and minimum score is 0 marks.

INTERPRETATION OF SCORE:

The total score is interpreted as

S.NO	LEVEL OF KNOWLEDGE	SCORE
1	Inadequate Knowledge	24-30
2	Moderately Adequate Knowledge	17-23
3	Adequate Knowledge	10-16

ANSWER KEY FOR ATTITUDE SCALE:-

STATEMENT NUMBER	ANSWERS	SCORE
1	Agree Uncertain Disagree	3 2 1
2	Disagree Uncertain Agree	3 2 1
3	Agree Uncertain Disagree	3 2 1
4	Disagree Uncertain Agree	3 2 1
5	Agree Uncertain Disagree	3 2 1
6	Disagree Uncertain Agree	3 2 1
7	Disagree Uncertain Agree	3 2 1
8	Agree Uncertain Disagree	3 2 1
9	Agree Uncertain Disagree	3 2 1
10	Disagree Uncertain Agree	3 2 1

SCORING:-

Section – C contains ten statements, in that five positive and five negative statements. Each answer carries score like

Correct Answer - 3

Uncertain - 2

Wrong Answer - 1

Maximum score is about 30 marks and minimum score is 10 marks.

INTERPRETATION OF SCORE:-

The total score is interpreted as

S.NO	LEVEL OF ATTITUDE	SCORE
1	Favourable Attitude	24-30
2	Moderately Favourable Attitude	17-23
3	Unfavourable Attitude	10-16

APPENDIX G

EVALATION CRITERIA RATING SCALE FOR VALIDATING THE TOOL

Respected Madam/Sir,

Instructions:

Kindly review the items in the tool. If you are agree with the criteria, please place a tick mark in “RELEVANT” column otherwise place the tick mark in “NEEDS MODIFICATION” column or “NOT RELEVANT” and give your comments in the remarks column.

SECTION A: DEMOGRAPHIC VARIABLES

SL. NO	ITEM	RELEVANT	NEEDS MODIFICATION	NOT RELEVANT	REMARKS
1.	Age in years				
2.	Gender				
3.	Religion				
4.	Educational status				
5.	Occupation				
6.	Monthly family income				
7.	Type of family				
8.	Marrital status				
9.	Previous exposure to awareness regarding memory loss				
10.	If yes specify the source of information				

Suggestions if any…….

SECTION B :

STRUCTURED KNOWLEDGE QUESTIONNAIRE

SI NO	RELEVANT	NEEDS MODIFICATION	NOT RELEVANT	REMARKS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Suggestions if any

SECTION C : THREE POINT LIKERT ATTITUDE SCALE

SI NO	RELEVANT	NEEDS MODIFICATION	NOT RELEVANT	REMARKS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Suggestions if any

APPENDIX J

EVALUATION CRITERIA CHECKLIST FOR VALIDATION OF INFORMATION EDUCATION AND COMMUNICATION (IEC) ON KNOWLEDGE AND ATTITUDE REGARDING MEMORY LOSS

INSTRUCTION

The expert is requested to go through following evaluation criteria checklist prepared for validating the intervention on **INFORMATION EDUCATION AND COMMUNICATION (IEC) ON KNOWLEDGE REGARDING MEMORY LOSS**

There are three columns given for responses and a column and facilitate your remarks in the remarks column given

INTERPRETATION COLUMNS

- Meets the criteria - Column I
- Partially meets the criteria - Column II
- Does not meet the criteria - Column III

SL.NO	CRITERIA	I	II	III	REMARKS
I.	CONTENT				
1.	SELECTION OF CONTENT				
1.1	content reflects the objectives				
1.2	content has up to date knowledge				
1.3	content is comprehensive for the knowledge of middle adults regarding memory loss				

1.4	content provides correct and accurate information				
1.5	content coverage				
2 2.1 2.2 2.3	ORGANIZATION OF CONTENT logical sequence continuity integration				
3 3.1 3.2	LANGUAGE local language is used in simple and in understandable dialogues technical terms are explained at the level of learner ability				
4	FEASIBILITY/PRACTICABILITY				
4.1	Is the suitable to the clients				
4.2	Permit self learning				
4.3	Acceptable to middle adults				
4.4	Interesting and useful to the middle adults				
4.5	Suitable for setting				

If any suggestion.....

APPENDIX K

CERTIFICATE OF TOOL VALIDATION

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

Madukkarai Market Road,
P.B. No. 4431
Industrial Estate Post,
COIMBATORE - 641 021.

Phone : 0422 - 2675641, 2672705
Fax : 0422 - 2676016
Email : ceandct@dataone.in
ceandct@gmail.com
Website: www.annaimeenakshi.in

Ref. No.

Date : .....

Certificate of Validation

This is to certify that the tool submitted by **Ms.Maruthu.G.**, M.Sc (N) II - Year student of Annai Meenakshi College of Nursing, Coimbatore, Tamil Nadu (Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai) is validated by undersigned and can proceed with this tool and conduct the dissertation entitled **"A Study to Evaluate the Effectiveness of Information Education Communication (IEC) on Knowledge Regarding Memory Loss Among Middle Adults in Selected Rural Area at Coimbatore".**

Place: Coimbatore

Signature

Date:

Name and Designation

APPENDIX L

LETTER SEEKING CONSENT OF SUBJECTS FOR PARTICIPATION IN THE STUDY (ENGLISH AND TAMIL).

CONSENT FORM

Respected sir/madam,

GOOD MORNING! I am Ms. Maruthu. G doing second year M.sc., nursing in Annai Meenakshi College of Nursing, Coimbatore. I am doing a research on "A Study to Assess the Effectiveness of Information Education Communication on Knowledge Regarding Memory Loss among Middle Adults". I request your co-operation to complete my research. I assure you that you won't get any harm due to my research.

I am Mr/Mrs …… I heard about the effectiveness Of Information Education Communication on Knowledge Regarding Memory Loss among middle adults from Ms. Maruthu. G. She explained me the benefits of this Information Education Communication. I agree with this health education on Memory Loss and this study project whole heartedly.

Yours faithfully,

Place :

Date :

ஒப்புதல் படிவம்

மதிப்பிற்குரியோரே,

வணக்கம். செல்வி. க. மருது, என்கிற நான் அன்னை மீனாட்சி செவிலியர் கல்லூரியில் செவிலியர் முதுநிலை பட்ட மேற்படிப்பு படித்துக்கொண்டிருக்கிறேன். நான் நினைவிழப்பு பற்றிய நலக்கல்வி அறிவுத்திறனை மேம்படுத்தும் என்பதைப் பற்றி ஆராய்ச்சி செய்து வருகிறேன். இதற்காக நான் தங்களது முழு ஒத்துழைப்பை கேட்டுக்கொள்கிறேன். மேலும் இதனால் தங்களுக்கு எந்த ஒரு பாதிப்பும் ஏற்படாது என்பதை தெரிவித்துக் கொள்கிறேன்.

திரு. / திருமதி. .. .. என்கிற நான், க.மருது, செவிலியர் அவர்களிடமிருந்து நினைவிழப்பு பற்றிய நலக்கல்வி அறிவுத்திறனை மேம்படுத்தும் என்பதை தெரிந்துகொண்டேன். இதனால் நான் இந்த ஆராய்ச்சியில் பங்குபெற முழுமனதுடன் ஒப்புதல் அளிக்கிறேன்.

நன்றி.

இடம் : கையொப்பம்

நாள் :

APPENDIX H

INFORMATION EDUCATION COMMUNICATION ON MEMORY LOSS (ENGLISH)

INFORMATION EDUCATION COMMUNICATION ON MEMORY LOSS (ENGLISH)

Name of the student	: Ms.Maruthu.G
Group	: Middle Aged Adults
Place of instruction	: Arisipalayam Rural Area
Topic	: Memory Loss
Medium	: Tamil
Duration	: 40 minutes
Method of teaching	: Lecture Cum Discussion
Teaching aids	: LCD

CENTRAL OBJECTIVE:

The middle aged adults will acquire adequate knowledge regarding memory loss and develop desirable attitude, skills in applying this knowledge into their daily living practices.

SPECIFIC OBJECTIVES:

The middle aged adults will be able to,

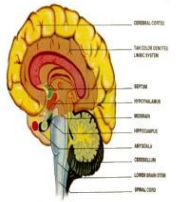
- define memory loss
- understand the anatomy and physiology of brain and cerebral cortex
- explain about the memory decline in normal aging
- identify the prevalence of memory loss
- enumerate the causes of memory loss
- list down the risk factors of memory loss

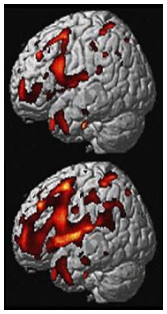
- explain the signs and symptoms of memory loss
- describe the diagnosis of memory loss
- narrate the management of memory loss
- recognize the prevention of memory loss
- understand the effects of memory loss in normal life

INTRODUCTION:

GOOD MORNING! I am Ms. Maruthu. G doing second year M.sc., nursing in Annai Meenakshi College of Nursing, Coimbatore. I am doing a research on “A Study to Assess the Effectiveness of Information Education Communication on Knowledge Regarding Memory Loss among Middle Adults”. Now i am going to give health talk on memory loss and its causes, treatment, preventive measures etc. I request your co-operation and active participation to complete this health education.

S.I NO	TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHING ACTIVITY	LEARNING ACTIVITY	A.V AIDS	EVALUATION
1	2 min	Define memory loss	**DEFINITION:** Memory Loss refers to impairment in the ability to learn new information or to retrieve previously learned information. MEANING: Memory Loss (amnesia) is unusual forgetfulness. The person may not be able to remember new events or recall one or more memories of the past, or both. OTHER NAMES OF MEMORY LOSS: • Forgetfulness • Amnesia • Impaired memory • Loss of memory	Teaching	Learning	LCD  	What is the meaning of memory loss?

2	3 min	understand the anatomy and physiology of brain and cerebral cortex	• Amnestic syndrome **ANATOMY AND PHYSIOLOGY OF BRAIN AND MEMORY STORAGE AREA:** The brain constitutes about one fiftieth of the body weight and lies within the cranial cavity. The parts are • Cerebrum • Mid brain • Pons • Medulla oblongata • Cerebellum **Cerebrum & cerebral cortex:** This is the largest part of the brain and it occupies the anterior and middle cranial fossae. The superficial part of the cerebrum is composed of nerve cell bodies or grey matter forming the *cerebral cortex,* and the deeper layers consist of nerve fibres or white matter.	Teaching	Learning		Explain the anatomy and physiology of brain?

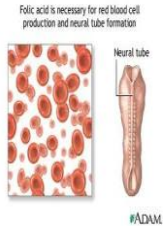
3	3 min	Explain the changes in memory	**Functions of the cerebral cortex:** The main function of cerebral cortex is mental activities involved in • Memory • Intelligence • Sense of responsibility • Thinking and learning. **Abnormalities:** Memory loss is caused by ***progressive, irreversible degeneration and atrophy of the cerebral cortex*** and result in mental deterioration, usually over several years and there is a gradual impairment in memory. **MEMORY DECLINE IN NORMAL AGING:** 1. Normal aging is associated with a decline in various memory abilities in many cognitive tasks; the	Teaching	Learning	 	What is mean by age

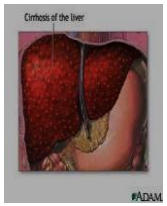
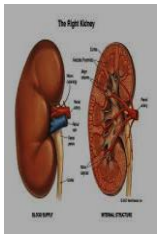
		related to aging	phenomenon is known as Age related Memory Impairment (AMI) or Age - Associated Memory Impairment (AAMI). 2. The deficits may be related to impairments seen in the ability to refresh recently processed information. Knowing this information can be extremelyimportant in daily decision – making, so this memory decline can affect the lives of the elderly. 3. Age related memory loss occurs more frequently with short term and recent memory but they have better remote memory.				associated memory loss?
4	2 min	Identify the prevalence	**PREVALENCE OF MEMORY LOSS :** Memory loss is more common among elderly. In the year 2002, the proportion of people with moderate to severe memory impairment ranged from approximately 6% among	Teaching	Learning		What is the prevalence

		of memory loss	peoples ages 60-69 years. 32% among people 85 years & old in world wide. - WHO Dementia &Alzheimer's disease are raising disorders among elderly. The primary symptom of these disorders is memory loss. So prevention & management of memory loss among elderly is essential through awareness. **ETIOLOGY OF MEMORY LOSS:** Memory loss in the elderly is common with advancing age, because the brain shrinks when a person get older, that causes memory loss. **Drugs:** Prescription and over-the-counter items can affect concentration and cause memory loss. Such side effects are			LCD	rate of memory loss among elderly?
5	4 min	Enumerate the causes of memory loss		Teaching	Learning		What are the causes of memory loss?

			more common with age. This is because body processes drugs more slowly as the person get older. Many frequently used drugs can affect memory. These include: • Cholesterol lowering tablets such as statins • Sleeping tablets • Anti-histamines • Blood pressure tablets • Arthritis treatments • Antidepressants & Pain killers **Alcohol:** Alcohol can damage your liver, but it also damages brain cells. Alcohol abuse is one of the most increasingly common causes of memory loss. **Depression:**	Teaching	Learning	 	What are the causes of memory

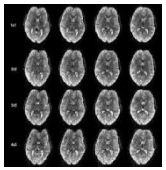
			Depression is more common as a person get older. And it can, contribute to memory loss in the elderly. Low mood can make it hard to concentrate, stay organized and remember things. **Thyroid disease:** The thyroid gland makes the hormone thyroxin. Too much thyroxin makes you confused and muddled. Too little makes you feel sluggish and depressed. So Thyroid disorders are one of the causes of memory loss. **Vitamin B12 deficiency:** Vitamin B12 is essential for making blood cells and also protects nerve cells. It is also vital for a healthy brain. Over time vitamin B12 deficiency causes permanent damage to brain and nerve cells. B12 deficiency is very common with advancing age that may cause memory loss.	Teaching	Learning	 	loss? What are the causes of memory loss?

			Folic Acid deficiency: Folic acid is needed to make blood cells and also needed for a healthy brain. It works with Vitamin B12 to make neurotransmitters - chemical signals that your nerve cells use to talk to each other. So, folic acid deficiency can affect your mood, and ultimately cause memory loss. **Vitamin B6 deficiency:** Vitamin B6 deficiency reduces concentration, attention, and contributes to memory loss. **Dehydration:** Brain is made up of 78% water. Dehydration can be quite common in the elderly, causing confusion and drowsiness. It can therefore be one of the causes of memory loss. **Diabetes:**				

			Diabetes and memory loss are closely linked. Brain needs a steady supply of sugar (glucose) to use as fuel. Poorly controlled diabetes can cause memory loss and confusion. Memory loss and confusion occurs when your blood glucose is high (hyperglycaemia) and when it is low (hypoglycaemia). **Hypoxia (Lack of Oxygen):** Brain needs oxygen to help burn sugar as a fuel. Low oxygen levels can cause memory loss. **Liver and Kidney Disease:** Brain needs many chemicals and nutrients to work properly, and liver helps process and deliver these, also liver and kidney help remove harmful toxins. So, chronic liver and kidney disease can be memory loss causes. **RISK FACTORS:**	Teaching Teaching	Learning Learning	  	What are the causes of memory loss? What are the causes

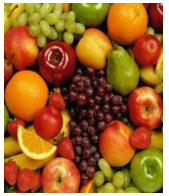
6 7	3 min 4 min	List down the risk factors of memory loss Explain the signs and	Risk factors of memory loss include: • Brain infections (HIV/AIDS) • Brain surgery • Cancer treatments (brain radiation, chemotherapy) • seizures, Epilepsy • Electroconvulsive therapy • Head trauma or injury • Heart bypass surgery & Migraine headache **SIGNS AND SYMPTOMS OF MEMORY LOSS:** Signs and symptoms of memory loss are, • Recent memory loss that affects day to day function • Difficulty performing familiar tasks	Teaching	Learning	 	of memory loss? What are the risk factors of memory loss?

		symptoms of memory loss	• Problems with language • Disorientation to time and place • Poor or decreased judgement • Problems with abstract thinking • Misplacing things • Searching the thinks again and again • Changes in mood or behaviour • Changes in personality • Loss of initiative and interest • Irritability **DIAGNOSTIC EVALUATION**: Tests that may be done include: • History related to memory loss • Mental status examination	Teaching	Learning	  	What are the symptoms of memory loss?

8	3 min	Describe the diagnosis of memory loss	• Neurological examination • Blood tests for specific diseases that are suspected (such as low vitamin B12 or thyroid disease) • Cerebral angiography • Memory tests • CT scan or MRI of the head and EEG	Teaching	Learning	 	What are the tests used to detect memory loss?
9	8 min	Narrate the management of memory	**MANAGEMENT OF MEMORY LOSS:** Natural Remedies of Memory Loss:- Some great natural ways are there to bolster brain's ability to remember. Here they are, 1. Eat regularly :- The brain is only 2-3 percent of the body's weight, but takes up 20 percent of its energy, so giving the energy will helps the brain to function normally.				

		loss	2. Super food Spinach is called super food because it strengthen the brain. 3. Drink hot beverages Tea and Coffee stimulate the brain and help it to access memories more effectively. 4. Avoid alcohol Alcohol has a major influence on memory. So avoiding alcohol is good for memory banks. 5. Take folic acid A good regimen of supplements, especially folic acid, will help to remember better. 6. Herbalize A variety of herbs, such as gingko biloba (fig), have been shown to help improve memory retention.	Teaching	Learning	   	What are the natural remedies of memory loss? What are the natural

			7. Stress less Trying to alleviate stress in the life, through relaxation or meditation, helps the brain retain 8. Play more games Mental games, like crossword puzzles and Sudoku, sharpen the memory. 9. Exercise Many reasons to do this, one of which is it keeps the brain healthy. 10. Get regular sleep Getting slumbers on a regular schedule is good for memory. **PREVENTION OF MEMORY LOSS:** The preventive measures of memory loss are, **Exercise**	Teaching Teaching	Learning Learning	   	remedies of memory loss? What are the natural remedies of memory loss?

10	7 min	Recognize the prevention of memory loss	Exercising is one of the most frequently cited activities to improve age-related memory. **Eating a Rainbow of Fruits and Vegetables** People must pay attention to their diets and eat a variety of fruits and vegetables, five to seven servings daily ranging from leafy greens to strawberries to tomatoes to sweet potatoes to promote their memory. **Mental Workouts** To keep the brain sharp, everyone need to challenge it regularly with some mental works like puzzles, crosswords etc. **Sleep** Healthy sleep patterns are crucial for cognitive performance, especially memory, which means at least seven	Teaching	Learning	 	What are the preventive measures of memory loss?

			hours of sleep each night is essential for archiving memories. **No More Multitasking** One of the biggest causes of failing to remember something, explains Small, is that "people aren't paying attention. As our brain ages, it's more difficult to do several things at once. Multitasking thus becomes an impediment to remembering names, a recipe, or something you just read. That's because the brain first has to encode information before it can retrieve the information as memory. Unless the brain is paying attention and taking in the information it will later need, the brain cannot encode the information. **Learning New Memory Tricks** A technique called "look, snap, connect" in which participants has to focus on someone or something and make a connection that will help	Teaching	Learning	 	What are the preventive measures of memory loss?

			them to remember. These kinds of techniques can be learned very quickly. Long-practiced strategies such as linking a person's name to something else or another person or using sound associations are also helpful. **Other preventive measures:** ▪ Mnemonic techniques like rhymes, linking objects with the events. ▪ Controlling diabetes is the best way to prevent memory loss. ▪ Stress management techniques such as yoga, meditation and relaxation techniques. **EFFECTS OF MEMORY LOSS:** ➢ Isolation and withdrawal from society ➢ Lack of interest in hygiene ➢ Poor self care ➢ Development of anxiety and depression ➢ Confusion and mentally fatigue in work ➢ Looses of interest in work which may lead to loss	Teaching	Learning	 	What are the preventive measures of memory

11	3 min	Understand the effects of memory loss in normal life	of job ➢ Unable to follow social norms in social life	Teaching	Learning		loss? What are the effects of memory loss?

SUMMARY:

Till now we have discussed regarding memory loss its meaning, anatomy and physiology of brain and cerebral cortex, memory decline in normal aging, prevalence, causes, risk factors, signs and symptoms, diagnosis, management, prevention and effects of memory loss.

CONCLUSION:

I hope you all understood about memory loss and its treatment, preventive measures. Thank you for your kind co-operation.

பிற்சேர்க்கை I

மறதி பற்றிய விழிப்புணர்வு தகவல் தொலைத் தொடர்பு கல்வி

மறதி பற்றிய தொலைத் தொடர்பு கல்வி

மாணவ ஆய்வாளரின் பெயர்	:	செல்வி க. மருது
குழு	:	வயது வந்தோர் (40–60 வயதுக்குட்பட்டவர்கள்)
கற்பிக்கும் இடம்	:	அரிசிபாளையம் ஆரம்ப சுகாதார நிலையம்.
தலைப்பு	:	நினைவிழப்பு
கற்பிக்கும் முறை	:	விரிவுரை மற்றும் பிரசங்க உரையாடல்
கற்பிக்க பயன்படுத்தும் கருவி	:	எல்.சி.டி.

மத்திய நோக்கங்கள் :

இந்த தொலைத்தொடர்பு கல்வியின் மூலம் 40 முதல் 60 வயதுக்குட்பட்டவர்களிடம் நினைவிழப்பு மற்றும் அதன் சிகிச்சை, தடுப்பு முறைகளைப் பற்றிய விழிப்புணர்வு அறிவையும், விரும்பத்தக்கதான அணுகுமுறை திறன்களையும் உருவாக்குதல்.

குறிப்பிட்ட நோக்கங்கள் :

இந்நலக்கல்வியின் முடிவில் கீழ்க்கண்டவற்றைப் பற்றிய அறிவுத்திறனை 40 முதல் 60 வயதுக்குட்டபட்டவர்கள் பெறுவார்கள்

- தலைப்பைப் பற்றி அறிமுகப்படுத்துதல்.
- நினைவிழப்பு பற்றி வரையறுத்தல்.
- மூளை மற்றும் நினைவுத்திறன் சேமிப்புப்பகுதி பற்றி விளக்குதல்.
- இயல்பான முதுமை அடைதலால் ஏற்படும் நினைவக சரிவு பற்றி கலந்துரையாடல்.
- நினைவிழப்பின் பாதிப்பு வீதத்தை அளவிடல்.
- நினைவிழப்பிற்கான காரணங்களை பட்டியலிடல்.
- நினைவிழப்பிற்கான அபாய காரணிகளை பதிவு செய்தல்.
- நினைவிழப்பின் அறிகுறிகளை வரிசைப்படுத்துதல்.

- நினைவிழப்பினை கண்டறியும் முறைகளை குறிப்பிடுதல்.
- நினைவிழப்பிற்கான சிகிச்சை முறைகளை விவரித்தல்.
- நினைவிழப்பிற்கான தடுப்பு முறைகளை பற்றி விவாதித்தல்.
- நினைவிழப்பினால் ஏற்படும் பின்விளைவுகள்.

முன்னுரை

அனைவருக்கும் வணக்கம். செல்வி. க. மருது, என்கிற நான் அன்னை மீனாட்சி செவிலியர் கல்லூரியில் செவிலியர் முதுநிலை பட்டமேற்படிப்பு இரண்டாம் ஆண்டு படிக்கிறேன். நான் நினைவிழப்பு பற்றிய தொலை தொடர்புக் கல்வி அறிவுத்திறனை மேம்படுத்தும் என்பதை பற்றி ஆராய்ச்சி செய்து வருகிறேன். இப்பொழுது நான் உங்களுக்கு நினைவிழப்பு பற்றியும் அதன் காரணங்கள், அபாய காரணிகள், அறிகுறிகள், கண்டறியும் முறைகள், சிகிச்சை மற்றும் தடுப்பு முறைகள், பின்விளைவுகளைப் பற்றியும் கூற வந்துள்ளேன். இதற்காக தங்களது முழு ஒத்துழைப்பை கேட்டுக்கொள்கிறேன்.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
1	2 நிமிடம்	நினைவிழப்பு பற்றி வரையறுத்தல்	**நினைவிழப்பு வரையறை :** நினைவிழப்பு என்பது புதிய தகவல்களை கற்றுக் கொள்வதிலும் அல்லது இதற்கு முன்னர் கற்ற தகவல்களை நினைவு கூர்வதிலும் உள்ள குறைபாடுகளை குறிக்கிறது. **நினைவிழப்பு : பொருள் :** நினைவிழப்பு என்பது அசாதாரண மறதியை குறிக்கிறது. நினைவிழப்பினால் பாதிக்கப்பட்டவர் புதிய நிகழ்வுகள் அல்லது ஒன்று (அ) அதற்கு மேற்பட்ட கடந்த கால நிகழ்வுகளை நினைவு கூற இயலாது. **நினைவு இழப்பின் இதர பெயர்கள் :** • மறதி • ஞ்ாபக மறதி நோய் • நினைவுத்திறன் குறைபாடுகள்	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவிழப்பு பற்றி விளக்குக.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
2	2 நிமிடம்	மூளை மற்றும் நினைவுத் திறன் சேமிப்பு பகுதி பற்றி விளக்குதல்	• நினைவாற்றல் இழப்பு • நினைவக சேதம் **மூளை மற்றும் நினைவுத்திறன் சேமிப்பு பகுதி :** மூளை உடலின் எடையில் ஐம்பதில் ஒரு பங்கு (1/50) ஆகும். இது மண்டையோட்டினுள் அமைந்துள்ளது. இதன் பாகங்கள் பின்வருவன : • பெருமூளை • சிறுமூளை • மத்திய மூளை • பான்ஸ் • முகுளம் **பெருமூளை மற்றும் பெருமூளை புறணி :** இது மூளையின் பெரிய பகுதி. பெருமூளையின் மேலோட்டமான பகுதி பெருமூளையின் புறணி. இது பல அடுக்குகளால் ஆன நரம்பு இழைகளை உள்ளடக்கியது.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவுத்திறன் சேமிப்புப் பகுதி பற்றி விளக்குக.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
3	2 நிமிடம்	இயல்பான முதுமை அடைதலால் ஏற்படும் நினைவக சரிவு பற்றி கலந்துரையாடல்.	**பெருமூளை புறணியின் பணிகள் :** புறணியின் முக்கிய பணி மன நல செயல்பாடுகள் ஆகும். அவையாவன • நினைவுத்திறன் சேமிப்பு • நுண்ணறிவுத்திறன் • பொறுப்புணர்வு நடவடிக்கைகள் • சிந்தனை மற்றும் கற்றல் திறன் **பெருமூளை புறணியில் ஏற்படும் மாறுபாடுகள் :** பெருமூளை புறணியில் பல ஆண்டுகளாக படிப்படியாக ஏற்படும் மீளும் தன்மையற்ற சீரழிவு மற்றும் செயல்திறன் குறைபாட்டினால் நினைவிழப்பு ஏற்படுகிறது. **இயல்பான முதுமையடைதலால் ஏற்படும் நினைவக சரிவு :** • இயல்பான முதுமையடைவதினால் அறிவாற்றல், செயல்திறன் மற்றும் நினைவுத்திறனில் சரிவு எற்படுகிறது. இந்த வகை நினைவக சரிவு வயது தொடர்பான நினைவக சேதம் என்று அழைக்கப்படுகிறது.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	இயல்பான முதுமை அடைதலால் ஏற்படும் நினைவக சரிவினை பற்றி கூறுக.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
4	3 நிமிடம்	நினைவு இழப்பின் பாதிப்பு வீதத்தை அளவிடல்	• வயது தொடர்பான நினைவாற்றல் இழப்பு குறுகிய கால மற்றும் சமீபத்திய நிகழ்வுகள் பற்றிய நினைவகத்தில் ஏற்படும், ஆனால் தொலைதூர நிகழ்வுகளின் நினைவுகள் பாதிக்கப்படுவதில்லை. **நினைவு இழப்பின் பாதிப்பு வீதம் :** • பொதுவாக முதியவர்கள் நினைவிழப்பினால் அதிகம் பாதிக்கப்படுகிறார்கள். • 6 சதவிகித மக்கள் 60–69 ஆண்டு வயதிலும், 32 சதவிகித மக்கள் 85 ஆண்டுகள் மற்றும் அதற்கு மேலான வயதிலும் பாதிக்கப்படுகிறார்கள். – உலக சுகாதார அமைப்பு (2002) டிமென்ஷியா மற்றும் அல்சைமர் என்னும் மறதி நோய் முதியவர்களின் மத்தியில் அதிகமாக காணப்படுகிறது. இந்த இரு நோய்களின் முதன்மை அறிகுறி நினைவிழப்பு ஆகும். ஏனவே முதியவர்களிடம் நினைவிழப்பு அதன் மேலாண்மை மற்றும் தடுப்பு முறைகள் பற்றிய விழிப்புணர்வு அவசியம்.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவிழப்பு பொதுவாக காணப்படுவது எந்த வயதினரிடம் ?

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
5	5 நிமிடம்	நினைவு இழப்பிற்கான காரணங்களை பட்டியலிடல்	**நினைவு இழப்பின் காரணங்கள் :** நினைவிழப்பு வயது முதிர்ச்சியினால் மூளை சுருங்குவதால் ஏற்படுகிறது. நினைவிழப்பிற்கான காரணங்கள் பின்வருவன : **1. மருந்துகள் :** பரிந்துரை செய்யப்பட்ட மற்றும் தன்னிச்சையாக எடுத்துக்கொள்ளப்படும் மருந்துகள் ஏற்படுத்தும் பக்க விளைவுகளால் நினைவிழப்பு ஏற்படுகிறது. அவை பின்வருமாறு • கொழுப்புச்சத்தை குறைக்கும் மாத்திரைகள் • தூக்க மாத்திரைகள் • இரத்த அழுத்த மாத்திரைகள் • மூட்டுவலி மாத்திரைகள் • வலி நிவாரணிகள் • மனச்சோர்வுக்கான மாத்திரைகள்	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பிற்கான காரணங்களை பட்டியலிடுக.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
			2. மதுப்பழக்கம் : மதுப்பழக்கம் கல்லீரலிலும் மூளை செல்களிலும் பாதிப்பை ஏற்படுத்துகிறது. எனவே ஆல்கஹால் நினைவாற்றல் இழப்பை ஏற்படுத்தும் பொதுவான சமூக காரணியாகும். **3. மன அழுத்தம் :** மன அழுத்தம் முதியவர்களிடம் அதிகமாக காணப்படுகிறது. இது நினைவிழப்பில் முக்கிய பங்கு வகிக்கிறது. மன அழுத்தத்தினால் கவனம் செலுத்துவதும், நினைவில் வைப்பதும் கடினமாகிறது. **4. தைராய்டு நோய் :** தைராய்டு சுரப்பி தைராக்ஸின் ஹார்மோனை சுரக்கிறது. அதிகமான தைராக்ஸின் குழப்பத்தை உருவாக்குகிறது. குறைவான தைராக்ஸின் மன அழுத்தத்தை ஏற்படுத்துகிறது. எனவே தைராய்டு நோய்கள் நினைவிழப்பை ஏற்படுத்தும் ஒரு காரணியாகும்.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பிற்கான காரணங்களை பட்டியலிடுக.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
			5. வைட்டமின் பி12 குறைபாடு : இரத்த செல்கள் உற்பத்தியாவதற்கு வைட்டமின் பி12 இன்றியமையாததாக இருக்கிறது. மேலும் இவை நரம்பு செல்களை பாதுகாக்கிறது. இவை ஆரோக்கியமான மூளைக்கு மிக அவசியம். காலப்போக்கில் வைட்டமின் பி12 குறைபாடு மூளை மற்றும் நரம்பு செல்களில் நிரந்தர சேதம் ஏற்படுத்துகிறது. எனவே வைட்டமின் பி12 குறைபாடு நினைவிழப்பை ஏற்படுத்தும். **ஃபோலிக் அமில குறைபாடு (இரும்புச்சத்து)** இரத்த அணுக்களை உற்பத்தி செய்வதற்கும் ஆரோக்கியமான மூளைக்கும் ஃபோலிக் அமிலம் தேவைப்படுகிறது. எனவே ஃபோலிக் அமில குறைபாடு மூளையை பாதித்து நினைவாற்றல் இழப்பை ஏற்படுத்துகிறது. **வைட்டமின் பி6 குறைபாடு :** வைட்டமின் பி6 குறைபாடு செறிவு மற்றும் கவனிக்கும் திறனை குறைக்கிறது. மேலும் நினைவாற்றல் இழப்புக்கு முக்கிய பங்களிக்கிறது.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பிற்கான காரணங்களை பட்டியலிடுக.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
			உடல் நீர்வறட்சி (நீரிழப்பு) : மூளை 70 சதவிகிதம் நீரால் ஆனது. உடல் நீர்வறட்சி முதியவர்களிடம் குழப்பம் மற்றும் சோர்வை ஏற்படுத்துகிறது. இதனால் உடலின் நீர் வறட்சி நினைவிழப்பை ஏற்படுத்துகிறது. **நீரிழிவு நோய் :** மூளை செயல்பாட்டிற்கு நிலையான சர்க்கரைச்சத்து (குளுக்கோஸ்) தேவைப்படுகிறது. இரத்தத்தில் சர்க்கரையின் அளவு அதிகரிக்கும்போதும், குறையும் போதும் நினைவிழப்பு மற்றும் குழப்பம் ஏற்படுகிறது. எனவே கட்டுப்படுத்தப்படாத நீரிழிவு நோய் நினைவிழப்பிற்கு காரணமாகிறது. **பிராணவாயு (ஆக்சிஜன்) பற்றாக்குறை :** மூளைக்கு தேவையான சர்க்கரைச்சத்தை எரிக்க மிகவும் உதவுவது ஆக்சிஜன். எனவே மிகக்குறைவான ஆக்சிஜன் மூளையை பாதித்து நினைவிழப்பை ஏற்படுத்தும்.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பிற்கான காரணங்களை பட்டியலிடுக.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
6	3 நிமிடம்	நினைவிழப்பிற் கான அபாய காரணிகளை பதிவு செய்தல்.	**கல்லீரல் மற்றும் சிறுநீரக நோய் :** மூளை சரியாக வேலை செய்ய பல இரசாயன பொருட்கள் மற்றும் சத்துக்கள் தேவைப்படுகிறது. இந்த இரசாயன பொருட்கள் மற்றும் சத்துக்களை வழங்க கல்லீரல் செயல்பாடு உதவுகிறது. மேலும் கல்லீரல் மற்றும் சிறுநீரகம் நம் உடலில் உள்ள தீங்கு விளைவிக்கும் நச்சுப்பொருட்களை நீக்க உதவுகிறது. எனவே நாள்பட்ட கல்லீரல் மற்றும் சிறுநீரக நோய் நினைவிழப்பை ஏற்படுத்தும் ஒரு காரணியாகும். **நினைவிழப்பின் அபாய காரணிகள் :** நினைவிழப்பினை ஏற்படுத்தும் அபாயக் காரணிகள் பின்வருவனவாகும். • மூளைத்தொற்று நோய் (எச்.ஐ.வி./எய்ட்ஸ்) • மூளை அறுவை சிகிச்சை • புற்றுநோய் சிகிச்சை முறைகள் (கீமோதெரபி, கதிரியக்க சிகிச்சை) • வலிப்பு நோய்	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பின் அபாய காரணிகளை பதிவு செய்க.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
7	3 நிமிடம்	நினைவு இழப்பின் அறிகுறிகளை வரிசைப் படுத்துதல்	• மின் அதிர்வு சிகிச்சை • தலையில் காயம் அல்லது அடிபடுதல் • இதய அறுவை சிகிச்சை • ஒற்றைத் தலைவலி **நினைவிழப்பின் அறிகுறிகள் :** • சமீபத்திய நினைவிழப்பு அன்றாட வாழ்க்கையை பாதிக்கிறது. • நன்கு பழக்கமான பணிகளை மேற்கொள்வதில் சிரமம். • பேசும் மொழியில் பிரச்சினைகள். • இடம் நேரம் மற்றும் சுற்றுச்சூழல் பற்றிய மறதி. • தீர்வு காணும் திறனில் குறைபாடு. • சிந்தனைத்திறன் குறைபாடுகள். • பொருட்களை இடம்மாற்றி வைத்தல். • பொருட்களை மீண்டும் மீண்டும் தேடுதல். • மனநிலை, நடவடிக்கை, மற்றும் பழக்க வழக்கங்களில் மாற்றம் ஏற்படுதல்.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பின் அறிகுறிகளை வரிசைப் படுத்துக.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
8	3 நிமிடம்	நினைவு இழப்பினை கண்டறியம் முறைகளை குறிப்பிடுதல்.	• ஆளுமைத்திறனில் மாற்றம் ஏற்படுதல். • உற்சாகமின்மை மற்றும் ஆர்வமின்மை ஏற்படுதல். • எளிதில் சீற்றம் கொள்கிற பண்பு (அல்லது) எரிச்சல் தன்மை. **நினைவிழப்பினை கண்டறியும் முறைகள் :** • நோயாளியின் நினைவிழப்பு தொடர்பான தகவல்களை அறிதல். • மனநிலை பரிசோதனை. • நரம்பியல் பரிசோதனை. • குறிப்பிட்ட நோய்களுக்கான இரத்த பரிசோதனைகள் (தைராய்டு நோய், போலிக் அமில குறைபாடு, வைட்டமின் பி12, பி6 குறைபாடு) • பெருமூளை ஆஞ்சியோகிராபி. • நினைவக சோதனை • சிடி ஸ்கேன் மற்றும் எம்.ஆர்.ஐ. ஸ்கேன். • மூளையின் அதிர்வுகளை அளவிடுதல்.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பினை கண்டறியம் முறைகளை குறிப்பிடுக.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
9	8 நிமிடம்	நினைவு இழப்பிற்கான சிகிச்சை முறைகளை விவரித்தல்.	**நினைவிழப்பிற்கான சிகிச்சை முறைகள் :** நினைவிழப்பிற்கான இயற்கை வழி சிகிச்சை முறைகள் பின்வருவன : **உணவுப் பழக்கம்** மூளை உடலின் எடையில் 2–3 சதவிகிதம் உள்ளது. ஆனால் மூளை இயல்பாக செயல்பட 20 சதவிகித ஆற்றலை உடலில் இருந்து எடுத்துக்கொள்கிறது. எனவே சரிவிகித உணவு எடுத்துக் கொள்ள வேண்டும். **சிறந்த உணவுகள்** பசலைக்கீரை மற்றும் கீரை வகைகள் மூளையை வலுப்படுத்த உதவும் உணவுகள் ஆகும். **சூடான பானங்கள்** தேநீர் மற்றும் காபி போன்ற சூடான பானங்கள் மூளையை துாண்டி திறம்பட நினைவுத்திறனை மேம்படுத்துகிறது.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பிற்கான சிகிச்சை முறைகளை விவரிக்கவும்.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
			மதுவை தவிர்த்தல் மது நினைவுத்திறனில் பெரும் தாக்கத்தை ஏற்படுத்துகிறது. எனவே மதுவை தவிர்ப்பதன் மூலம் நினைவகத் திறனை மேம்படுத்தலாம். **ஃபோலிக் அமிலம் (இரும்புச்சத்து)** போலிக் அமிலம் நினைவுத்திறனை மேம்படுத்தும் சிறந்த இணை உணவு ஆகும். **மூலிகைகள்** அத்தி நினைவகத்திறனை மேம்படுத்த உதவும் மூலிகை என நிரூபிக்கப்பட்டுள்ளது. **மன அழுத்தத்தை குறைத்தல்** வாழ்க்கையில் ஓய்வு மற்றும் தியானம் மூலம் மன அழுத்தத்தை குறைப்பது நினைவுத்திறனை தக்க வைத்துக்கொள்ள உதவும்.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பிற்கான சிகிச்சை முறைகளை விவரிக்கவும்.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
10	7 நிமிடம்	நினைவு இழப்பினை தடுக்கும் முறைகளை விவரித்தல்.	**விளையாட்டுகள் :** குறுக்கெழுத்து, புதிர்கள், சுடோகு போன்ற மன விளையாட்டுகள் நினைவகத்தை கூர்மையாக்க உதவுகிறது. **உடற்பயிற்சி :** உடற்பயிற்சி செய்ய பல காரணங்கள் உள்ளன. அதில் ஒன்று இது மூளையை ஆரோக்கியமாக வைக்கவும் நினைவுத்திறனை மேம்படுத்தவும் உதவுகிறது. **வழக்கமான உறக்கம் :** வழக்கமான திட்டமிட்ட உறக்கம் நினைவகத்திற்கு நல்லது. **நினைவிழப்பினை தடுக்கும் முறைகள்** நினைவிழப்பினை தடுக்க இயலும் தடுக்கும் முறைகள் பின்வருவன : **உடற்பயிற்சி** உடற்பயிற்சி வயது தொடர்பான ஞாபகமறதியை தடுக்க உதவும் முக்கியமான பொழுதுபோக்குகளில் ஒன்றாகும். (எ.கா. – நடைப்பயிற்சி)	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பினை தடுக்கும் முறைகளை விவரிக்கவும்.

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
			வெவ்வேறு நிறவகை பழங்கள் மற்றும் காய்கறிகள் : மக்கள் தங்கள் உணவில் பழங்கள் மற்றும் காய்கறிகளை தினசரி சேர்த்துக்கொள்வதன் மூலம் நினைவகத்திறனை ஊக்குவிக்க இயலும். (எ.கா.) : கீரைகள், சர்க்கரை வள்ளிக்கிழங்கு, தக்காளி. **மனநல பயிற்சிகள் :** மூளையை கூர்மையாக்க அனைவரும் புதிர்கள், குறுக்கெழுத்து முதலிய சவாலான மன பயிற்சிகளை தொடர்ந்து செய்ய வேண்டும். இப்பயிற்சிகள் நினைவிழப்பை தடுக்க உதவும். **போதிய மற்றும் வழக்கமான உறக்கம் :** ஆரோக்கியமான திட்டமிட்ட உறக்கம் (தினசரி 7 மணிநேர தூக்கம்) நினைவக செயல்திறனை மேம்படுத்த உதவும் முக்கியமான ஒன்றாகும்.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
			ஒரே நேரத்தில் ஒன்றுக்கு மேற்பட்ட பணிகளை தவிர்த்தல் : ஞாபக மறதிக்கு முக்கிய காரணங்களில் ஒன்று கவனமின்மை. மேலும் ஒரே நேரத்தில் பல பணிகளை செய்வது கவனமின்மையை அதிகரிக்கிறது. எனவே ஒரே நேரத்தில் ஒன்றுக்கு மேற்பட்ட பணிகளை செய்வதை தவிர்ப்பதின் வழியே நினைவகத்திறனை மேம்படுத்தலாம். **நினைவிழப்பினை தடுக்கும் இதர வழிகள் :** • நீரிழிவு நோயை கட்டுப்படுத்துவதன் வழியே திறம்பட தடுக்க முடியும். • மன அழுத்தத்திற்கான மேலாண்மை வழியாகவும் தடுக்கலாம். (எ.கா. தியானம், யோகா). • நினைவூட்டு நுட்பங்களை கற்றுக்கொள்வதன் வழியே நினைவிழப்பினை தடுக்கலாம். நினைவூட்டு நுட்பங்களுக்கான எ.கா – பாடல்கள், னிமோனிக் பயிற்சிகள்.	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	

வ. எண்.	கால நேரம்	தனிப்பட்ட குறிக் கோள்கள்	விரிவாக்கம்	ஆசிரியரின் செயல் திறன்	கற்பவரின் செயல் திறன்	ஒலி ஒளி கருவி	மதிப்பிடுதல்
11	3 நிமிடம்	நினைவு இழப்பின் பின் விளைவுகளை விவரித்தல்.	**நினைவிழப்பின் பின்விளைவுகள்** • அன்றாட வாழ்க்கையை பாதிக்கிறது. • வேலையில் ஆர்வமின்மை. இதனால் வேலை பறிபோகும் நிலை ஏற்படுகிறது. • சமுக நெறிகளை கடைப்பிடிக்க இயலாமை. • சுயநலம் பேணுவதில் பிரச்சினைகள். • மனச்சோர்வு • தனிமையை விரும்புதல் • சுயபராமரிப்பில் ஆர்வமின்மை	கற்பித்தல்	கவனித்தல்	எல்.சி.டி.	நினைவு இழப்பின் பின் விளைவுகளை விவரிக்கவும்.

முடிவுரை :

நான் இவ்வளவு நேரம் உங்களுக்கு கற்றுக்கொடுத்தவை புரிந்திருக்கும் என நம்புகிறேன். உங்கள் ஒத்துழைப்பிற்கு நன்றி.

வணக்கம்.

DATA COLLECTION

IEC ON MEMORY LOSS